FOUNDED IN 1856

RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

FREIGHT TRAFFIC ISSUE

OCTOBER 6, 1952 TOTAL DISTRIBUTION THIS ISSUE— 20,800

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Through a century and a quarter the Baltimore and Ohio Railroad has been among the leaders in the application of new tools and methods to improve national transportation. First railroad in the United States to put a separate, non-articulated General Motors Diesel locomotive to work, the B & O has continued to improve its equipment for serving shippers and passengers alike through some of America's richest farming, mining and manufacturing territory. Today its fleet of Diesel motive power includes 426 General Motors units.

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GENERAL MOTORS

La Grange, Illinois • Home of the Diesel Locomotive
In Canada: GENERAL MOTORS DIESEL LTD., LONDON, ONTARIO

GENERAL MOTORS LOCOMOTIVES

Another NEW HAVEN Success Story

We back up a loaded trailer onto a freight car in the Boston yards. In the morning, in New York, the trailer is unloaded, ready to be hauled away.

This simple idea has clicked with users of this type of rail transportation, both ways between Boston, Springfield, Providence and New York, and has become recognized as a progressive medium for fast, economical freight service.

Started by the New Haven some years ago, this novel idea has paid off in greater freight revenue. Since January, 1952, and in the succeeding months, this trailer business has increased 75 per cent. During the month of August over 3500 trailers were transported.

That is why the New Haven has just ordered another 100 flat cars.

MINER *Class* A-22-XL

FRICTION DRAFT GEAR

W. H. MINER, INC. CHICAGO

JERSEY CENTRAL LINES

adds OOMPH to its MARINE SERVICE

. . . with new diesel tugs

A few weeks ago Jersey Central Lines' sleek new tugboat "Liberty" churned the busy waters of New York Harbor for the first time and was welcomed in a manner befitting her rank as First of the Fleet . . . first of eight modern, 1600-horsepower diesel tugs designed for joint B&O-JCL marine service by Naval Architect Thomas D. Bowes and being constructed by the RTC Shipbuilding Corp. to speed the handling of the railroads' heavy traffic in the great port of New York.

The "Liberty" is as practical as she is pleasing. By means of a hinged mast, special ballast tanks and other low-bridge features she can serve the whole area of New York Harbor with equal ease—an important advantage in "delivering the goods" anywhere, anytime.

Shippers who want to know how well the powerful new "Liberty" and her sister craft can serve them need only ask Don Y. Smith, Chief Freight Traffic Officer of the Jersey Central Lines. Why not call him *today* at Barclay 7-9700?

●

The Philadelphia firm of Thomas D. Bowes, M. E., dates back to 1905 and specializes in small craft for domestic waterborne commerce. During World War II it designed a wide variety of patrol boats, mine-sweepers, tugs and other vessels for the Maritime Commission, the Navy, and the Army Engineers. The Bowes firm also was consultant to the Maritime Commission in connection with work on freighters and tankers.

RTC Shipbuilding Corp. of Camden, N. J., is one of the most successful small-craft yards in the East. Attesting to its workmanship is the fact that during World War II, RTC probably won more Army-Navy "E" (for Excellence) Awards than any other shipyard on the Atlantic Coast. Now noted also for its efficient ship repair facilities, RTC specializes in the building of tugboats, fishing vessels, tankers and oil barges.

JERSEY CENTRAL LINES

LINES

JERSEY CENTRAL LINES

The BIG Little Railroad

Vol. 133, No. 14 October 6, 1952

RAILWAY AGE

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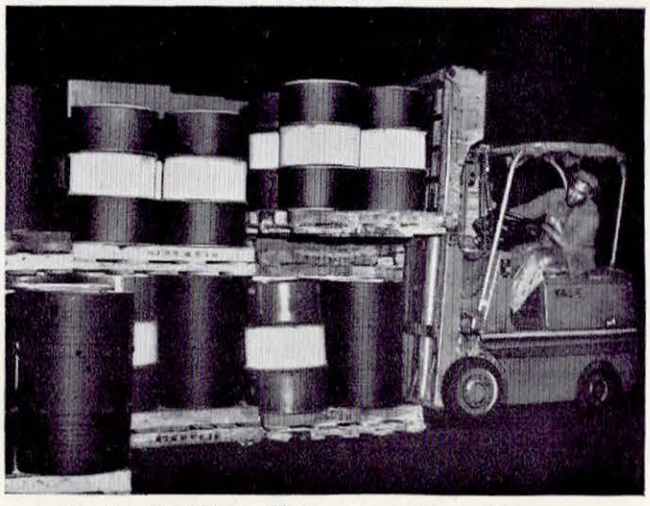
Railway Age Railway Mechanical & Electrical Engineer Railway Engineering & Maintenance
Railway Signaling & Communications Car Builders' Cyclopedia Locomotive Cyclopedia
Railway Engineering & Maintenance Cyclopedia American Builder
Marine Engineering & Shipping Review Marine Catalog & Directory
Books covering transportation and building

Railway Age is a member of Associated Business Publications (A. B. P.) and Audit Bureau of Circulation (A. B. C.) and is indexed by the Industrial Arts Index and by the Engineering Index Service. Printed in U. S. A.

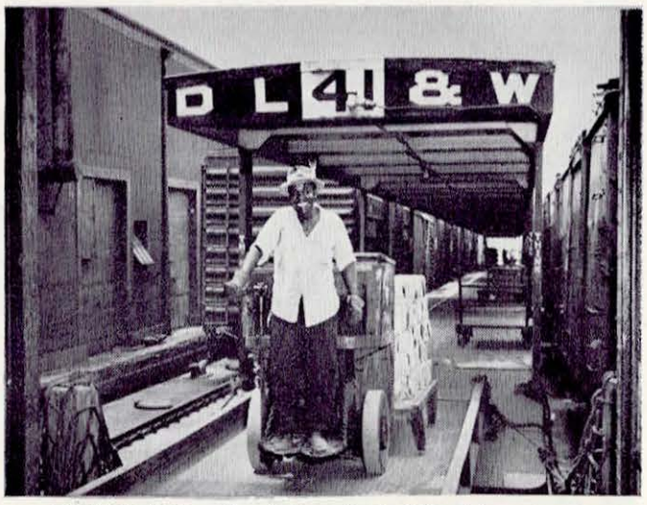
GLASSWARE — A Lackawanna "mule train" has a load capacity of 4,000 pounds on the fork-lift pusher truck and 2,000 pounds on each additional trailer.

CRATED REFRIGERATORS — Lackawanna's specially designed metal plates on fork-lift pusher trucks permit quick pick-up and unloading of freight inside the car.

WHEN TIME MEANS MONEY_



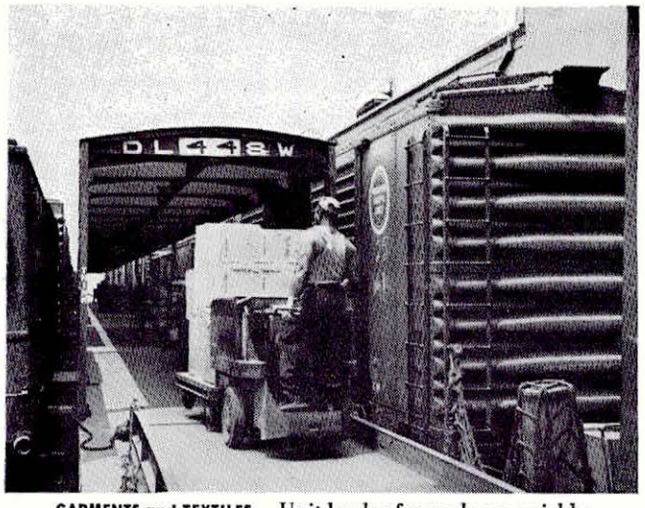
OILS and CHEMICALS — Shipments awaiting pick-up are palletized and conveniently stored in the terminal.



PACKAGED PAPER — Loaded on dead skids, shipments are carried from freight car to bulkhead on electric low-lift platform tracks.

Lackawanna

SHIPPERS WHO ARE IN THE KNOW,



GARMENTS and TEXTILES—Unit loads of parcels are quickly transferred from trailer trucks to waiting box cars by electric low-lift equipment.

FOOD for EXPORT—Four wheel "live" skids on electric low-lift platform trucks expedite sacked food transfers.

SHIP VIA LACKAWANNA!

New Mechanized Freight Handling at Lackawanna Piers and Terminals Means Faster, Safer, More Dependable Deliveries!

To improve its service to the nation's shippers, the Lackawanna recently has conducted a tremendous modernization program. Huge sums have been expended in the development of the most advanced and efficient mechanized equipment to speed up and to facilitate the handling of overland and export freight.

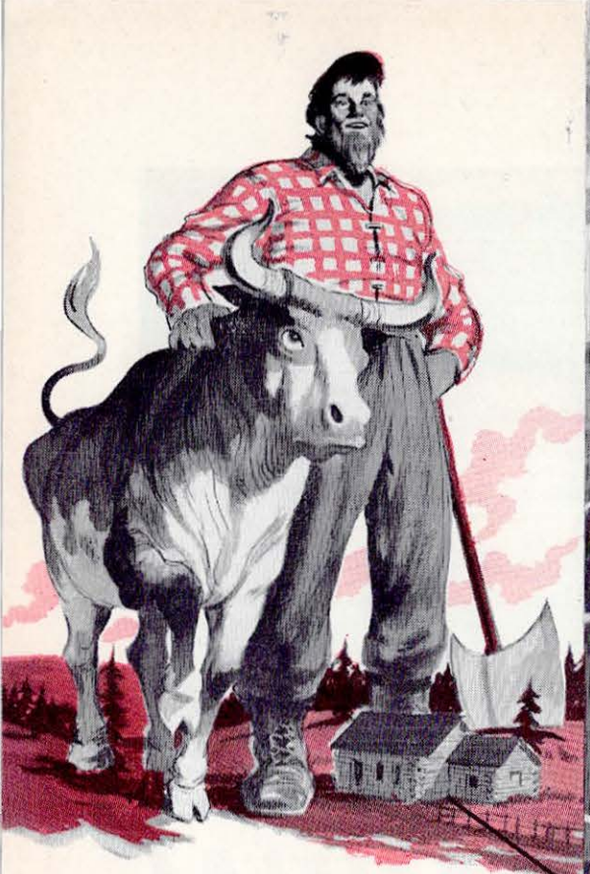
Pioneer in the use of fork-lift and pallet and fork-truck pusher equipment, the Lackawanna has succeeded during the last few years in bringing about a *44% increase* in the average volume of packaged freight handled per man hour at its piers and stations in the New York area.

To provide even greater speed and efficiency and to minimize the possibility of damage to fragile goods, the Lackawanna recently has made a further advance with the introduction of specially-designed low-wheel "mule trains", capable of cutting *one hour per carload* from freight transfer schedules.

Whether it's packaged goods, heavy machinery, perishables, or bulk traffic, modern Lackawanna efficiency adds up to preferred handling for your shipments. That's why so many of the world's greatest shippers specify Lackawanna — to or through New York.

Railroad

CHOOSE THE ROUTE OF PHOEBE SNOW



Here's One of Railroad's Paul Bunyans

Thanks to "UNION"
RETARDER SPEED CONTROL and AUTOMATIC SWITCHING

It's said no job was too big for giants like Minnesota's legendary Paul Bunyan. But the work done by modern retarder yards in sorting freight cars would have strained even his strength to the limit.

Fortunately no muscles such as "Paul Bunyan's" are needed in today's classification yards. The giant's job can easily and efficiently be done by "Union" Retarder Speed Control and Automatic Switching.

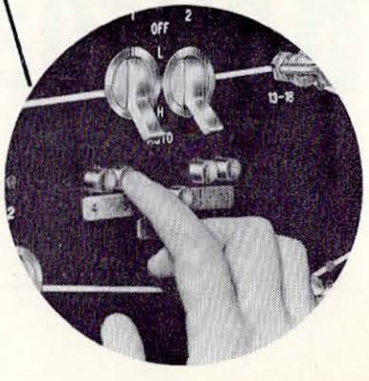
All it takes is the touch of a finger on the push buttons of a "Union" control panel and one man is able to route the cut to the desired classification track and automatically produce the proper braking action necessary to control the speed at which the cut should leave the retarder.

"Union" Retarder Speed Control and Automatic Switching are applicable to both new and existing installations. Why not get in touch with "Union's" engineers *now*? They're available whenever desired for consultation, advice or to make special studies.

Single control panel provides both Retarder Speed Control and Automatic Switching with one man routing cars and operating retarders. Push buttons for route selection are grouped at operator's left hand . . . retarder controls are located conveniently on the track diagram.

To route a car to the desired classification track, operator presses one push button. "Union" Automatic Switching correctly aligns the switches as cut proceeds to its designated track.

To control the speed at which the cut is to leave the retarders, operator presses button . . . "Union" Retarder Speed Control automatically brakes the cut to the selected speed.



UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

CURRENT RAILWAY STATISTICS

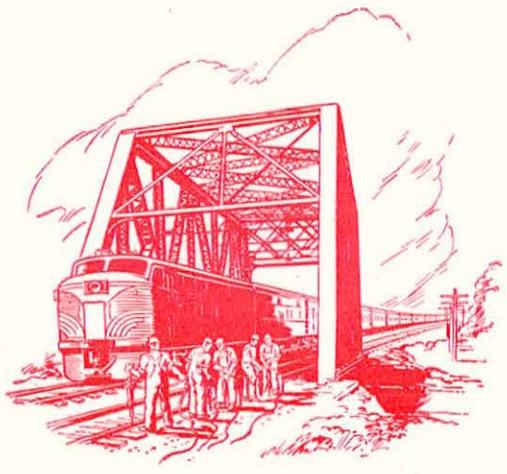
Operating revenues, seven months	
1952	$5,911,265,980
1951	5,854,235,231
Operating expenses, seven months	
1952	$4,634,987,983
1951	4,646,642,007
Taxes, seven months	
1952	$ 672,002,739
1951	645,095,748
Net railway operating income, seven months	
1952	$ 503,043,404
1951	443,128,736
Net income, estimated, seven months	
1952	$ 326,000,000
1951	278,000,000
Average price railroad stocks	
September 30, 1952	62.95
October 2, 1951	56.51
Car loadings, revenue freight	
38 weeks, 1952	27,155,208
38 weeks, 1951	29,479,124
Average daily freight car surplus	
September 27, 1952	3,247
September 29, 1951	2,595
Average daily freight car shortage	
September 27, 1952	18,558
September 29, 1951	16,753
Freight cars delivered	
August 1952	4,537
August 1951	7,183
Freight cars on order	
September 1, 1952	95,761
September 1, 1951	139,104
Freight cars held for repairs	
September 1, 1952	108,222
September 1, 1951	96,020
Average number railroad employees	
Mid-August 1952	1,219,257
Mid-August 1951	1,297,060

In This Issue . . .

WHAT RAILROADS ARE DOING to improve their freight service to shippers is the subject of two major articles. One, on page 110, incorporates *Railway Age's* annual list of stations equipped to handle unit loads of carload or l.c.l freight; the other, on page 100, is a survey of recent changes in railroad freight schedules, and of performance in meeting those schedules. The list of mechanized stations has grown, despite the general decline in l.c.l. traffic—which seems clear proof that the railroads are still trying both to cut the cost and to improve the handling of such traffic. The schedule survey, too, shows progress, some of it highly significant, both in reducing running times and in sticking to schedules.

FANTASY can be delightful reading—when it springs from the brain of a Lewis Carroll or a Mark Twain, and is concededly fantastic. But when it occurs in a supposedly serious discussion of an important economic problem by an economist of some reputation, it isn't at all delightful reading. That's why this issue's two editorial comment pages (85 and 86) are devoted almost entirely to a refutation of Dr. Ford K. Edwards' recent attack on the Ex Parte 175 rate increase decision—an attack briefly noted on this page last week.

IT'S NEWS, these days, when a railroad *increases* its passenger schedules. On that basis, there was a lot of news last week out of Boston, where the New Haven announced addition or restoration of 50 trains, and the B&M of 21. Some of them, to be sure, are only single RDC or "F.C.D." cars; some operate only one day a week. But they represent, nevertheless, more rather than less rail passenger service, and that, to repeat, is news! Details of these and other schedule changes, actual or proposed, are included in the news columns. Meantime, passenger car orders are showing a decided pickup. On top of the Sante Fe order for 113, reported last week, the NP plans to order 24, and the C&EI has bought 10 from Budd.



"GENERALLY GOOD"—seems to be a fair two-word summary of the results of the Griffin plan for routing l.c.l. freight, judging from its first 18 months of operation. It hasn't, admittedly, solved all l.c.l. problems, either for railroad or shippers. But, on balance, it seems to have been good for both. An evaluation of the plan's results begins on page 95.

THE LATEST EXAMPLE OF PUSHBUTTON EFFICIENCY in the railroad field was highlighted this past week to members of the Signal Section of the A.A.R., meeting in Quebec for their annual convention, by a sound motion picture entitled "On the Button." It showed operation of the Milwaukee's Air Line yard, the first freight

WEEK AT A GLANCE

classification yard to employ both retarder speed control and automatic switching—the two basic components of yard pushbutton operation. The picture was prepared and presented by the Union Switch & Signal Division of Westinghouse Air Brake Company. An account of other Signal Section activities begins on page 120.

In Washington . . .

A NEW "PROGRESS REPORT" on tariff simplification has been issued by the Railroads' Tariff Research Group. It includes two new Freight Tariff Improvement Bulletins relating to form and arrangement of railroad freight tariffs. The nature of these bulletins is briefly outlined in the news pages.

THE PROSPECT OF TROUBLE in meeting near future needs for steel for railroad cars and tracks isn't exactly unexpected, after the prolonged steel strike. The "pessimistic picture" was painted recently for N.P.A. by representatives of car builders and of the railroads. Facts then brought out are summarized in one of this issue's news articles.

. . . And Elsewhere

THE OCTOBER ISSUE OF HARPER'S—just out—features an article that should be "must" reading for every person who owns an automobile. It is probably one of the most scathing indictments ever made of the high-powered, high-pressure lobby maintained by operators of long-distance commercial trucks and their labor-boss allies. Written by Richard L. Neuberger, Oregon state senator, who was in the forefront of the battle to enact that state's weight-distance tax, it presents irrefutable evidence to show how truckers damage our overloaded highways, how they use pressure tactics to escape payment of fair charges for highway use, and how they use the railroads' legitimate interest in the problem as a smoke screen to cover up their own activities.

IT WOULD PAY THE RAILROADS to see that their "inherent advantages" are reflected in their price structure wherever competition is a factor in movement of traffic. So says W. K. Tate (above), engineering-trained traffic vice-president of the NC&StL. His suggested approach to truck-competitive rates is summarized, with explanatory charts, in the article which starts on page 90.

WHERE DO ENGINEERS COME FROM? In view of the current concern about sources of future engineering manpower requirements, the following tabulation, compiled by the American Society for Engineering Education, of engineering students enrolled in 10 of the country's largest technical colleges as of October 5, 1951, is of more than passing interest. It is published, of course, without prejudice to, or reflection on, the many other fine schools which are also training the engineers of the future.

	Undergraduate			*Graduate*	*Total*
	Day	Evening and Special	Total		
Illinois Institute of Technology	1,376	3,765	5,141	562	5,703
Polytechnic Institute of Brooklyn	1,156	2,224	3,380	1,649	5,029
Purdue University	3,721	13	3,734	374	4,108
University of Illinois	3,102	0	3,102	406	3,508
New York University	1,176	1,256	2,432	921	3,353
College of the City of New York	2,151	875	3,026	231	3,257
Massachusetts Institute of Technology	2,359	0	2,359	810	3,169
Rensselaer Polytechnic Institute	2,585	217	2,802	326	3,128
Georgia Institute of Technology	2,804	0	2,804	146	2,950
Pennsylvania State College	2,530	19	2,549	79	2,628

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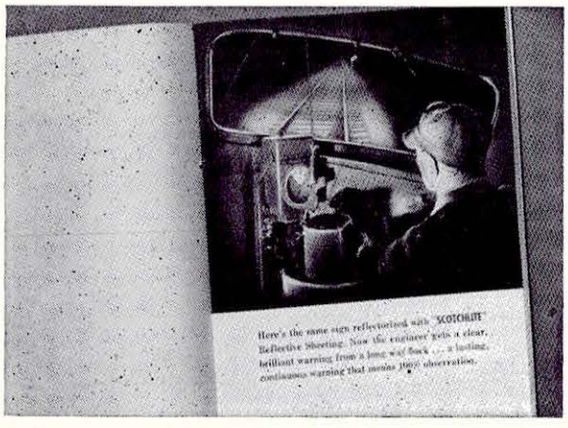
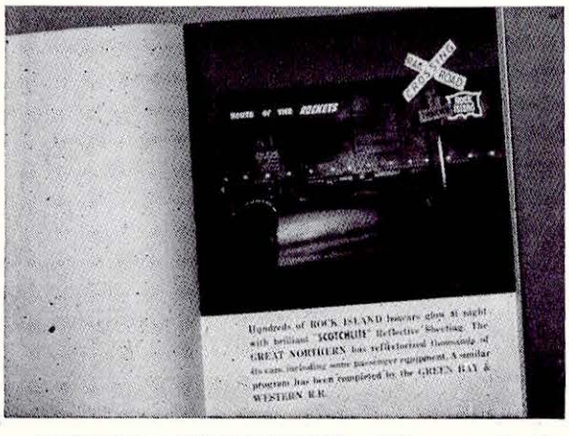
Write for your free copy of "REFLECT AND PROTECT" today!



HOW TO INCREASE VISIBILITY of Restricted Speed signs, Slow Boards, Whistle Posts.



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This book is a significant report on Railway Safety and Public Relations. It covers every application of "SCOTCH-LITE" Reflective Sheeting for railroad signs and signals.

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that have constantly been made year after year.

YOUR BEST

BUILT TO GIVE YOU...

QUICK BREAKAWAY and fast acceleration of engine to firing speed.

HIGH POWER RESERVE *at all times* for positive operation of control equipment.

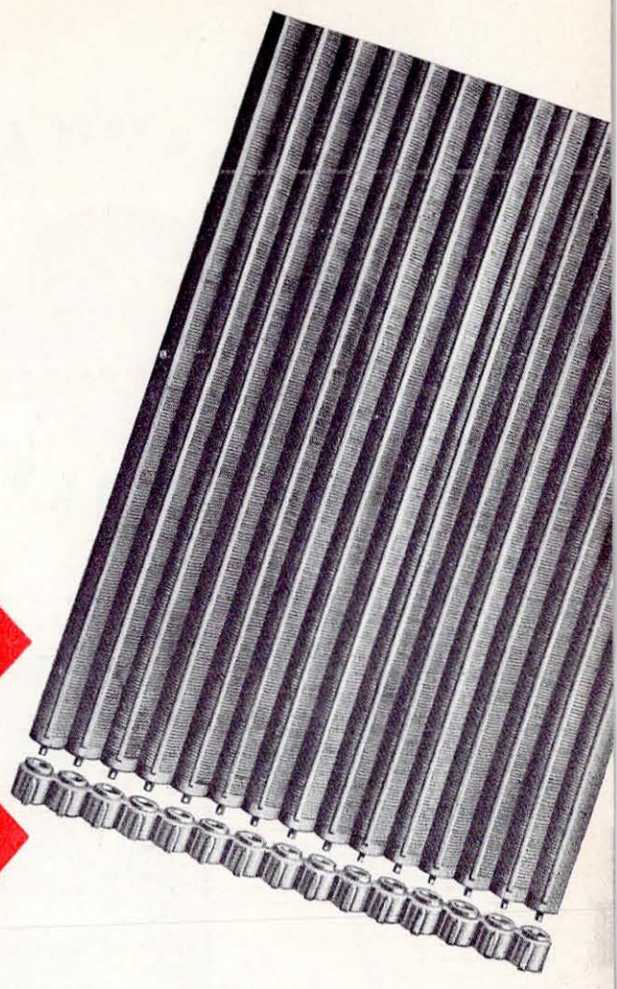
HIGH AVAILABILITY—uninterrupted on-line service.

LOW COSTS of operation, maintenance, depreciation.

EASY to change and keep charged.

RUGGED CONSTRUCTION for hard, continuous use.

INHERENT SAFETY—plus clean, quiet, vibrationless operation.



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IMPROVED POSITIVE PLATE CONSTRUCTION

the long-life grids now contain SILVIUM—an alloy of silver, lead and other components—which make them highly corrosion resistant. Top connecting bar is heavier.

. . . with the New Polyethylene insulating tube sealer

An insulating sealer for the bottom of the tubes. Acid-proof, non-corroding plastic, it fits snugly into slotted tubes of positive plate, and reduces loss of active material. Even the small sediment deposit of the past is reduced 50%. Thus, more active material remains available, and the high battery capacity is sustained for longer working life.

PERMANIZED NEGATIVE PLATES—Improved processing, a result of Exide Quality Control, assures uniform plates with higher electrical efficiency. These negatives, teamed with the improved positive plates, give you a well-balanced combination for hard service and long life.

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SEAMLESS SHOCK-PROOF JAR—Made of high quality rubber. A scientifically selected combination of tensile strength and elongation provides a sturdy jar built for long life and heavy-duty service.

CORROSION-RESISTANT TRAY GUARD—A plastic, acid-resistant steel tray coating with high insulating quality and ability to withstand hard knocks.

NEW UNBREAKABLE PLASTIC VENT PLUGS—Made of unbreakable polyethylene. Can be quickly and easily removed to add water.

Types and sizes for storage battery applications in all heavy-duty services.

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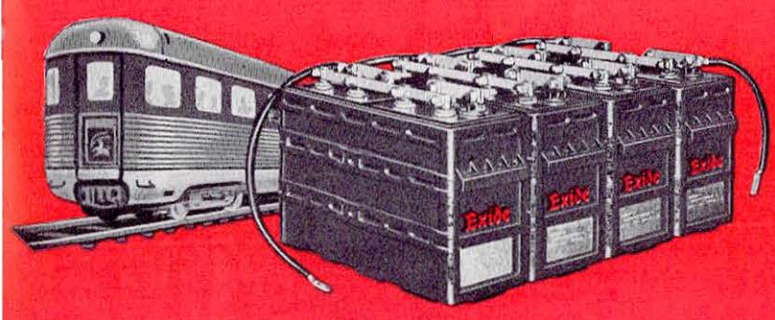
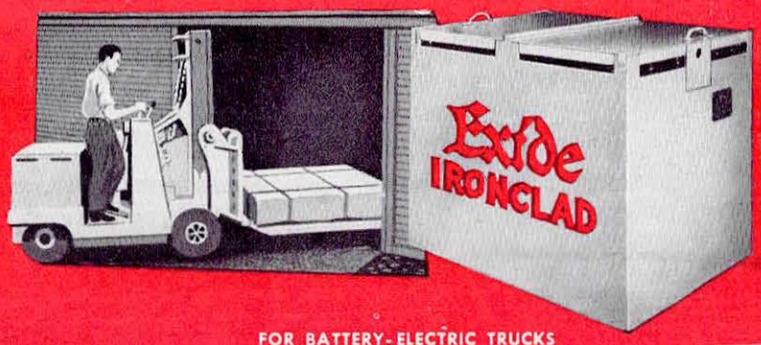


FOR CAR LIGHTING AND AIR-CONDITIONING



FOR BATTERY-ELECTRIC TRUCKS

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THE TRANSCONTINENTAL CUT-OFF

- cuts time
- cuts distance
- cuts damage

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W. L. Richardson, Executive Vice President
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Quanah ROUTE

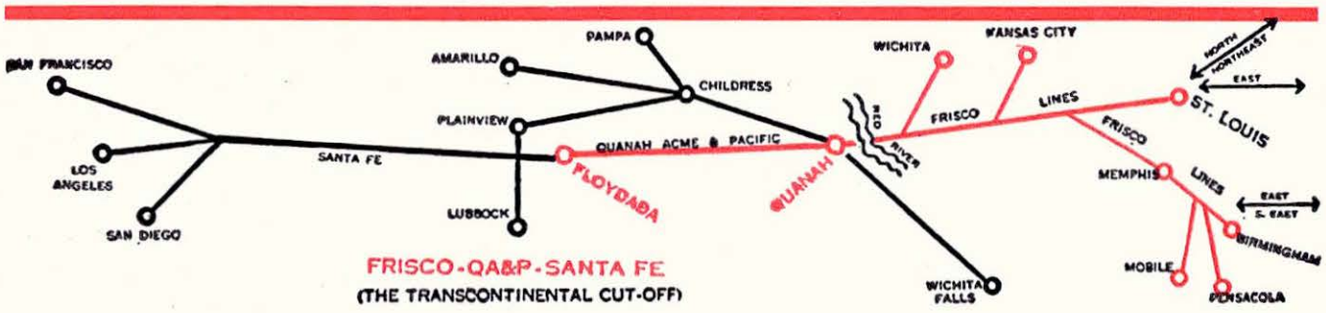
Fast co-ordinated schedules!

Impact recorder tested!

Direct short mileage routes!

No large terminal switching operations!

Between East and West QA&P is Best!



FRISCO-QA&P-SANTA FE
(THE TRANSCONTINENTAL CUT-OFF)

When Time Flies

...on chilled steel wheels!

When trains are constantly speeding towards you from four directions—as at this heavy traffic crossing—there isn't time to "wrestle" with a motor car.

That's why you'll find a Fairbanks-Morse Model 101 motor car working there—and elsewhere—bringing safety to hazardous operating areas.

Low lifting-weight, balance, rail skids between the wheels—all contribute to easy, *fast* set-off anywhere by one man. Add features of immediate reverse, four-wheel brakes, grouped controls, full visibility—and you'll see why the Model 101 sets the standard for motor car safety on the rails today.

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We believe that ASF Research has made very valuable contributions to the railroad industry. Proof? Well, for one thing, the record of the Ride-Control Truck! This is the truck—designed, developed, tested and *introduced* by ASF—that made possible today's freight train speeds.

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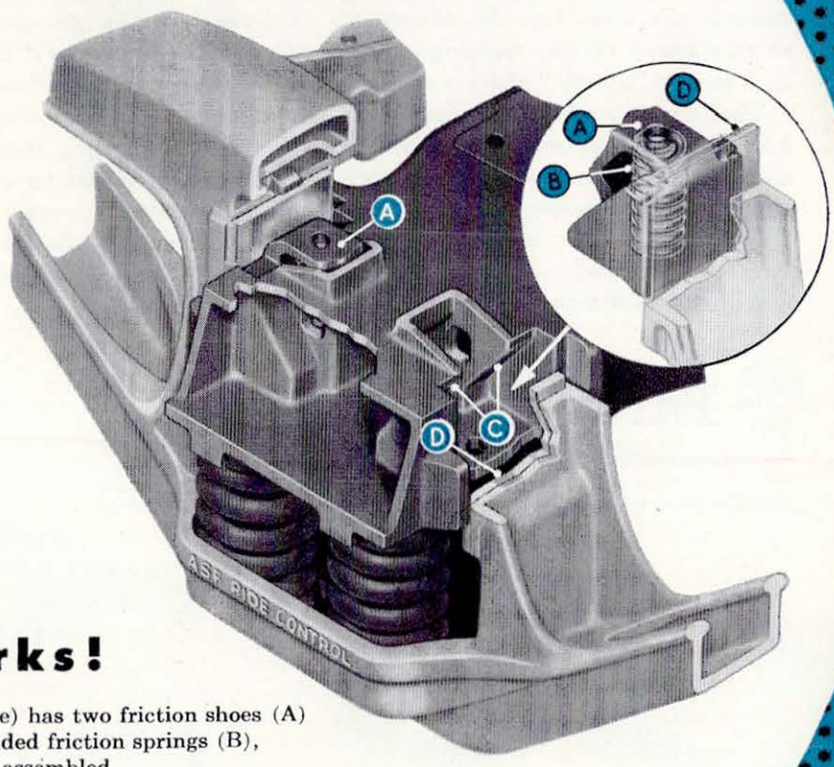
Four little friction shoes and four constant-pressure friction springs did the trick! They made it possible, for the first time, to have the softness of long-travel springs, under *proper control!*

Today the ASF Ride-Control Truck is *the most-copied railroad truck in America!*



How it works!

Each Ride-Control bolster end (see above) has two friction shoes (A) into which are fitted two pre-loaded friction springs (B), both of which are compressed when assembled. Spring forces the shoe upward, along the inclined surface (C), thus outward, *with constant pressure*, against the opposing hardened friction surface (D). That's it!

Ride-Control Trucks are *right* for every type of lading. Investigate them!

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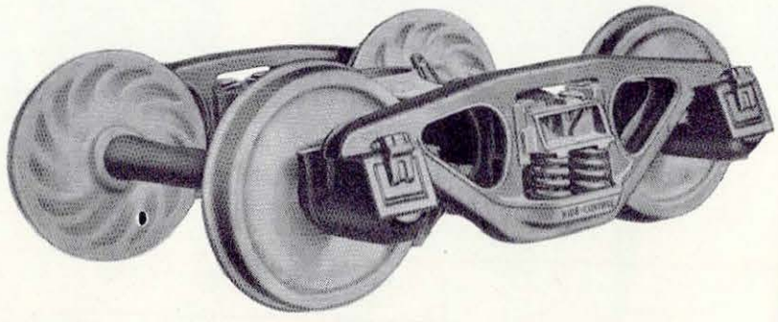

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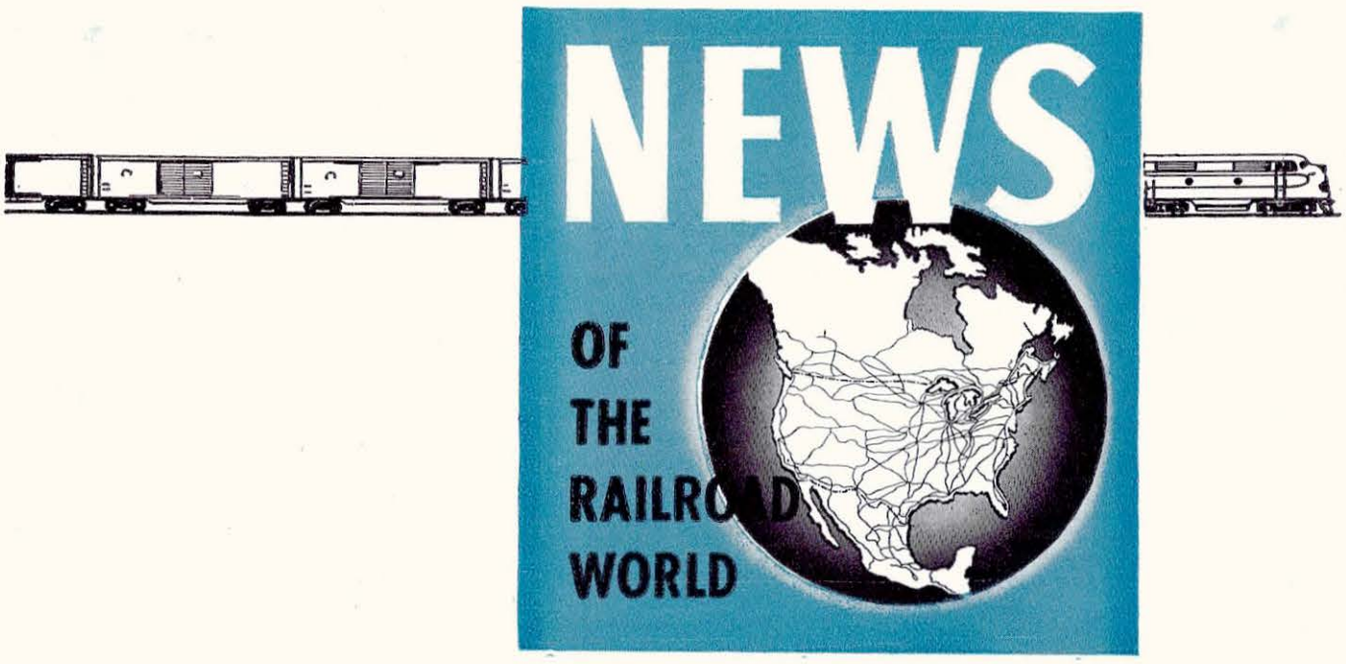


New Haven Adds 50 Passenger Trains, B&M, 21; Other Roads Also Announce New Services

Boston suburban and Old Colony lines chief beneficiaries of NH's "greatest single expansion"; NP to reschedule "North Coast"

What is reported to be the greatest single expansion of passenger operations in the history of the New York, New Haven & Hartford, took place on September 28, when 50 new or previously discontinued trains were placed in, or returned to, service, along with schedule reductions for 26 additional trains previously operated.

The changes, which are in line with the road's announced policy of "putting on passenger trains whenever and wherever the opportunity offers" (*Railway Age*, July 14, page 64), were concentrated primarily in the Boston suburban area and on the lines of the former Old Colony, but extend also to other parts of the New Haven system. Most of the changes became effective on September 28, coincident with introduction of new fall and winter timetables.

The Boston area also will be the principal beneficiary of 21 new trains and 28 faster trains inaugurated on the same day by the Boston & Maine.

Elsewhere in the country, the Northern Pacific announced major changes, to become effective November 16, in its Chicago-Pacific Northwest passenger services, details of which are given in the Equipment and Supplies column. A faster New Orleans-Chicago train was inaugurated by the Illinois Central; a new fast Chicago-Omaha mail train by the Chicago, Burlington & Quincy; and through Chicago-Norfolk, Va., coach service by the Pennsylvania and the Norfolk & Western. The Baltimore & Ohio speeded up its Washington-Chicago "Shenandoah" by 20 minutes, while the New York Central added new "Beeliner" (Budd RDC car) service between Albany, N. Y., and Kingston, on its West Shore line.

Highlights of the New Haven's expanded passenger service include new round-trips between Boston and Woods Hole, Middleboro, Plymouth, Greenbush, Braintree, Brockton, Needham Heights, Blackstone, New Bedford and Providence; between Worcester, Mass., and New London, Conn.; and between Waterbury, Conn., Bridgeport and Hartford. New trains allotted to various runs include: Woods Hole and Boston (2); Middleboro-Brockton and Boston (6); Plymouth and Boston (4); Greenbush and Boston (8); Braintree and Boston (6); Needham Heights and Boston (6); Walpole-Blackstone and Boston (4); New Bedford and Boston (2); Boston and Providence (4); Worcester and New London (4); Waterbury and Bridgeport (2); and Waterbury and Hartford (2).

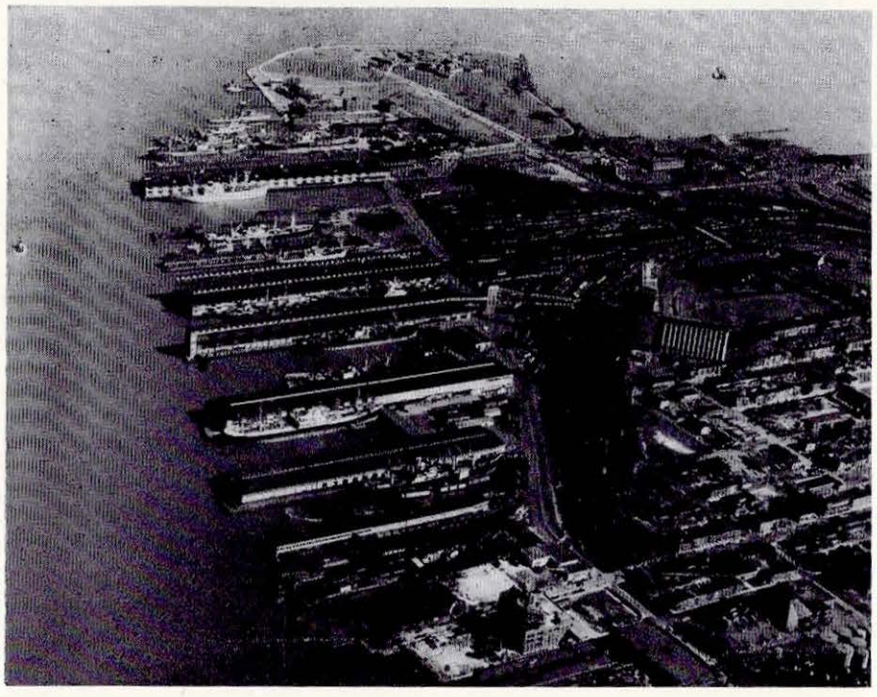
Self-Propelled Cars

Many trains now operated with standard equipment will be replaced with "Shoreliners"—Budd RDC cars, of which the New Haven has 40 in service or on order. Some branch lines will be served by the lighter "F.D.C." (Frederic C. Dumaine) cars, or "Little Shoreliners," seating 45 passengers. These units, of which the New Haven has 11 in service or on order, are rail-buses, built by the Mack Manufacturing Corporation (*Railway Age*, March 24, page 13). They are being used, for example, to provide three round-trips daily, except Saturday and Sunday, between Taunton, Mass., and Fall River, with connecting service to Boston provided at Taunton. These trips, actually inaugurated some weeks before the new timetable went into effect, restore rail passenger service to Fall River, which, for some years, had probably been the largest city in the country without such service.

Traffic Increasing

Between Worcester, Mass., and New London, Conn., where, prior to last June, there had been no local passenger service for 24 years, service was increased from two round-trips daily, except Sunday, to three round-trips on weekdays and two on Sundays, with added stops at Plainfield, Conn., and Jewett City. The two-round-trip service in effect on this line since June is reported to have carried more than 10,000 passengers in its first nine weeks of operation, while service for the New Haven system as a whole is reported to have shown an increase of nearly 1.4 million passengers in the first six months of 1952, as compared with the same period of last year.

In addition to its expanded local service, the New Haven will continue to provide through week-end service between New York and Cape Cod until the end of October, later than ever before. From December 11 through April 6, 1953, it will operate, on alternate days, a through all-Pullman train, the "Vacationer," between Boston and Miami, Fla., St. Peters-



AERIAL VIEW OF THE BALTIMORE & OHIO'S marine terminal at Locust Point, Baltimore (above), shows the wide new access road designed to facilitate movement of trucks to and from piers. The $1,000,000 improvement program also involved creation of new parking areas and doubling of tailboard space at the piers. View of Pier 6 (below), shows how new loading platform, to left of pier, is connected with pier platform proper by a drawbridge that crosses apron track. This facilitates use of freight handling equipment, such as fork lift trucks and tractors.

burg and Sarasota, in cooperation with the Pennsylvania, the Richmond, Fredericksburg & Potomac, the Atlantic Coast Line and the Florida East Coast. Daily through cars will be operated, December 18 through April 6, 1953, in connection with the PRR, the RF&P and the Seaboard Air Line between Boston and Miami, with connections to other Florida points.

New service on the B&M also is concentrated largely in the Boston area, with 12 new Sunday trains (RDC "Highliners") between Boston and Haverhill, Mass. One of these provides a late evening Portland, Me.-Boston connection, via the "State of Maine." In addition, service has been speeded up over the entire system, but particularly on the Gloucester, Mass., and Conway, N. H., branches, on the New Hampshire division, and between Boston and Portsmouth, N. H. Better connections for New York have been provided on the Fitchburg division, and spacing of trains on that line has been improved.

New B&M timetables have been "greatly simplified," with "read-down" tables only.

The PRR and the N&W have established a new through coach service between Chicago and Norfolk, via Cincinnati. These roads have, for many years, operated through Pullman sleeping and lounge cars on this route, but coach passengers have been obliged to change at Cincinnati. The reclining seat coach service, like the through Pullman service, operates on the PRR's "Union" and N&W's "Pocahontas" eastbound; on the "Pocahontas" and the "Chicago Daylight Express" westbound.

The Burlington's new mail train—the fastest ever scheduled by that road—went into service between Chicago, Council Bluffs, and Omaha on September 28. The new schedule calls for the "Fast Mail" to depart from Chicago at 9 p.m., with arrival at Council Bluffs Transfer at 4:45 a.m. and Omaha at 5:30 a.m. Eastbound, the train makes the 496-mile run in daylight hours with a total running time from Omaha of 9 hours. Coach passengers are carried eastward, but no passengers are handled westward.

The Illinois Central has discontinued through local train service from New Orleans to Chicago and has created a new fast train, "The Creole," to replace the former "Northern Express." "The Creole" cuts 8 hours 25 minutes from the running time of the former train and offers afternoon service from Kentucky and southern Illinois points to St. Louis and Chicago. The southbound "Southern Express" continues on the same local-express schedule as heretofore. Both trains offer through coach service only.

Other schedule adjustments reported by western roads were, for the most part, of a minor nature. However, there was a marked trend toward "tightening" running times.

N.P.A. Hears Sad Stories About Cars and Rails

Representatives of freight car builders recently drew for the National Production Authority a "pessimistic picture of their production difficulties which they attributed to effects of the long steel strike." About the same time, N.P.A. heard railroad representatives restate the carriers' "urgent need for greater allotments of steel to produce new rails."

N.P.A. statements thus summarized discussions at September 24 and 25 meetings of the authority's Railroad Contract Car Builders Industry Advisory Committee and Railroad Industry Advisory Committee. The former committee reported that car-building plants had been forced into "costly shutdowns as a result of the lack of steel."

Also, they reported a "virtual standstill of new orders" for freight cars. In that connection, however, the committee explained that the railroads "are reluctant to place new orders when orders a year old still are undelivered."

The industry's "biggest dilemma" at present is the lack of center sill sections, the N.P.A. statement said. It went on to explain that a Weirton Steel Company mill, which was a "substantial" producer of sills, had suffered

a mechanical breakdown. To alleviate this situation, N.P.A. officials are seeking to have the United States Steel Corporation and Bethlehem Steel Company step up their outputs of sills. However, discussions at the meeting indicated that "it may be months before this arrangement with the two steel companies can become fully effective," N.P.A. also reported.

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Meanwhile, N.P.A.'s Railroad Equipment Division is considering an amendment to Order M-73 (Maintenance, Repair, Installation and Operating Supplies and Minor Capital Additions for Rail Transportation Systems.) The proposed amendment would permit railroads to obtain rail and track accessories in advance of their track-laying season without regard to the 30- or 45-day inventory restrictions, provided they remain within allotments authorized under M-73. The amendment also would allow railroads to obtain foreign and used steel without an allotment.

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Service between Buffalo, N.Y. and Indianapolis is now "Pacemaker."

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regulatory agencies, (3) centralizing transport mobilization planning, (4) granting income tax relief to regulated common carriers, (5) repealing the long- and short-haul clause of the Interstate Commerce Act, and (6) applying user charges on federal transport facilities.

Those presenting their views to the Committee included W. T. Faricy, president, and G. S. Prince, general solicitor, Association of American Railroads; J. V. Lawrence, managing director, American Trucking Associations; Admiral E. S. Land, president, and G. S. Tipton, general counsel, Air Transport Association; Alexander Purdon, secretary-treasurer, National Federation of American Shipping; and Giles Morrow, executive secretary, Freight Forwarders Institute.

Proposals made by the transport association executives, along with others submitted to the T. & C. Committee earlier by chamber members, were referred to special subcommittees during an executive session of the committee on the second day of the meeting. Five subcommittees were appointed to study proposals on taxation, federal government economy, labor, social legislation, and "subjects of general transport interest."

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The next meeting of the committee is scheduled for December 12, in Minneapolis.

Davidson Retires from Loco. Inspection Bureau

Edward H. Davidson retired on September 30 from the directorship of the Bureau of Locomotive Inspection of the Interstate Commerce Commission after 38 years of service with the bureau. He plans to enter consulting work at Washington, D. C., where he is a licensed mechanical engineer.

The bureau directorship is a position filled by Presidential appointment with confirmation by the Senate. With the retirement of Mr. Davidson, the commission designated one of the two assistant directors, Allyn C. Breed, as acting director.

Mr. Davidson had been director since June 1949, when his appointment by President Truman was unanimously confirmed by the Senate. His retirement was pursuant to Civil Service retirement rules, as he became 70 years of age on September 26.

Mr. Davidson was born at Monroe, Conn., and his family later moved to Baraboo, Wis., where he attended public schools. His first employment was with the Chicago & North Western as an engine wiper and apprentice, and he was subsequently employed by the Baltimore & Ohio as a machinist; and by the Central of New Jersey in various capacities, including those of machinist, engineman, and enginehouse foreman.

Mr. Davidson then left railroad service to become master mechanic for

Edward H. Davidson

Milliken Bros. Steel Corporation. He came back as a locomotive engineer on the Southern. Next, he spent several years in Panama, where he was employed by the Panama Canal Commission's Transportation Department.

It was on October 23, 1914, that Mr. Davidson joined the staff of the Bureau of Locomotive Inspection as district inspector. He continued in that capacity until May 1940, when he became assistant chief inspector by appointment of the late President Roosevelt. The title of assistant chief inspector was subsequently changed to assistant director, and Mr. Davidson remained in that position until his appointment to the directorship. He is a member of the American Society of Mechanical Engineers, Master Boilermakers Association, Locomotive Maintenance Officers' Association, and Brotherhood of Locomotive Engineers.

"L.C.L. Problem is Dual —Rates and Service"

In an effort to "bring to the forefront the real crux of the l.c.l. dilemma," the Trans-Missouri-Kansas Shippers Board, at its 94th regular meeting, held in Tulsa, Okla., on September 25, conducted a panel discussion of the subject with merchandise or l.c.l. representatives of nine eastern, southern and western roads as panel members.

Members of the panel revealed that railroads had lost approximately 57 per cent in l.c.l. traffic from 1946 to 1951—a drop in tonnage from 48 million to 20 million. While some of this was recovered as freight forwarder business, the proportion was small in comparison with the 28-million-ton loss. At the same time, the number of open stations remained almost constant, with little change in average number of employees.

Further discussion brought out the fact, that while railroad revenue per ton-mile had increased 46 per cent in 1951 over 1939, less-carload rates increased in most instances at least 150 per cent in the same period. Individual members of the panel told how roads in the board's territory had spent nearly $7 million for new freight stations; more than $700,000 for mechanized freight handling equipment; $49,500 for advertising l.c.l. services, and $33,616 for preparing and distributing a package car directory—all in an effort to improve service and regain lost traffic.

Moderator of the panel, J. M. Cody, general traffic manager of Butler Brothers, Chicago, conceded that, through use of rate stops and classification, competition had done a rather effective job of drawing off top revenue less-carload freight, but said "the way is certainly open to the railroads to do the same."

How Many Stations?

A question from the floor: "If all less-carload service were to be discontinued, how many of the more than 50,000 freight stations could be closed?", brought the answer: "Probably less than two per cent." Mr. Cody, in summarizing the discussion, said the l.c.l. problem "is a dual one—one of rates and services—which must be treated competitively in both respects by railroads if they are to regain it." He said the problem was of concern to carload shippers as well. Any attempt to close a quantity of freight stations would inevitably result in a "roar" of objection in Washington which could "possibly be the beginning of leading the railroads to nationalization." He asked carload shippers to help out.

At a joint luncheon session with the Chamber of Commerce of Tulsa and the Traffic Club of Tulsa, R. W. McDowell, president of the Mid-Continent Petroleum Corporation, said transcontinental rail service could not have been inaugurated in 1869 had it not been for discovery of petroleum 10 years earlier. Substitution of petroleum cylinder oils and journal grease for unstable animal fat, plus improvements in railway equipment design, removed one of the main barriers to railroad expansion, he said.

Freight rates, too high for the petroleum industry of the southwest from a competitive standpoint, precipitated construction of pipelines, Mr. McDowell continued. He added that lower rates might not have permanently forestalled pipeline construction, "but I do believe they would not have been built so soon and there would not have been so many miles constructed had rail rates been adjusted more realistically with the changing competitive picture in the petroleum industry."

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Edward H. Davidson retired on September 30 from the directorship of the Bureau of Locomotive Inspection of the Interstate Commerce Commission after 38 years of service with the bureau. He plans to enter consulting work at Washington, D. C., where he is a licensed mechanical engineer.

The bureau directorship is a position filled by Presidential appointment with confirmation by the Senate. With the retirement of Mr. Davidson, the commission designated one of the two assistant directors, Allyn C. Breed, as acting director.

Mr. Davidson had been director since June 1949, when his appointment by President Truman was unanimously confirmed by the Senate. His retirement was pursuant to Civil Service retirement rules, as he became 70 years of age on September 26.

Mr. Davidson was born at Monroe, Conn., and his family later moved to Baraboo, Wis., where he attended public schools. His first employment was with the Chicago & North Western as an engine wiper and apprentice, and he was subsequently employed by the Baltimore & Ohio as a machinist; and by the Central of New Jersey in various capacities, including those of machinist, engineman, and enginehouse foreman.

Mr. Davidson then left railroad service to become master mechanic for

Edward H. Davidson

Milliken Bros. Steel Corporation. He came back as a locomotive engineer on the Southern. Next, he spent several years in Panama, where he was employed by the Panama Canal Commission's Transportation Department.

It was on October 23, 1914, that Mr. Davidson joined the staff of the Bureau of Locomotive Inspection as district inspector. He continued in that capacity until May 1940, when he became assistant chief inspector by appointment of the late President Roosevelt. The title of assistant chief inspector was subsequently changed to assistant director, and Mr. Davidson remained in that position until his appointment to the directorship. He is a member of the American Society of Mechanical Engineers, Master Boilermakers Association, Locomotive Maintenance Officers' Association, and Brotherhood of Locomotive Engineers.

"L.C.L. Problem is Dual —Rates and Service"

In an effort to "bring to the forefront the real crux of the l.c.l. dilemma," the Trans-Missouri-Kansas Shippers Board, at its 94th regular meeting, held in Tulsa, Okla., on September 25, conducted a panel discussion of the subject with merchandise or l.c.l. representatives of nine eastern, southern and western roads as panel members.

Members of the panel revealed that railroads had lost approximately 57 per cent in l.c.l. traffic from 1946 to 1951—a drop in tonnage from 48 million to 20 million. While some of this was recovered as freight forwarder business, the proportion was small in comparison with the 28-million-ton loss. At the same time, the number of open stations remained almost constant, with little change in average number of employees.

Further discussion brought out the fact, that while railroad revenue per ton-mile had increased 46 per cent in 1951 over 1939, less-carload rates increased in most instances at least 150 per cent in the same period. Individual members of the panel told how roads in the board's territory had spent nearly $7 million for new freight stations; more than $700,000 for mechanized freight handling equipment; $49,500 for advertising l.c.l. services, and $33,616 for preparing and distributing a package car directory—all in an effort to improve service and regain lost traffic.

Moderator of the panel, J. M. Cody, general traffic manager of Butler Brothers, Chicago, conceded that, through use of rate stops and classification, competition had done a rather effective job of drawing off top revenue less-carload freight, but said "the way is certainly open to the railroads to do the same."

How Many Stations?

A question from the floor: "If all less-carload service were to be discontinued, how many of the more than 50,000 freight stations could be closed?", brought the answer: "Probably less than two per cent." Mr. Cody, in summarizing the discussion, said the l.c.l. problem "is a dual one—one of rates and services—which must be treated competitively in both respects by railroads if they are to regain it." He said the problem was of concern to carload shippers as well. Any attempt to close a quantity of freight stations would inevitably result in a "roar" of objection in Washington which could "possibly be the beginning of leading the railroads to nationalization." He asked carload shippers to help out.

At a joint luncheon session with the Chamber of Commerce of Tulsa and the Traffic Club of Tulsa, R. W. McDowell, president of the Mid-Continent Petroleum Corporation, said transcontinental rail service could not have been inaugurated in 1869 had it not been for discovery of petroleum 10 years earlier. Substitution of petroleum cylinder oils and journal grease for unstable animal fat, plus improvements in railway equipment design, removed one of the main barriers to railroad expansion, he said.

Freight rates, too high for the petroleum industry of the southwest from a competitive standpoint, precipitated construction of pipelines, Mr. McDowell continued. He added that lower rates might not have permanently forestalled pipeline construction, "but I do believe they would not have been built so soon and there would not have been so many miles constructed had rail rates been adjusted more realistically with the changing competitive picture in the petroleum industry."

While he "regards highly the position of the railroad industry in our national security and economy, competition is still a vital factor in the distribution of petroleum products. . . And if the railroads cannot find ways and means of keeping transportation costs of petroleum products at a more reasonable level, the petroleum industry must find cheaper methods of transportation to survive and maintain its markets."

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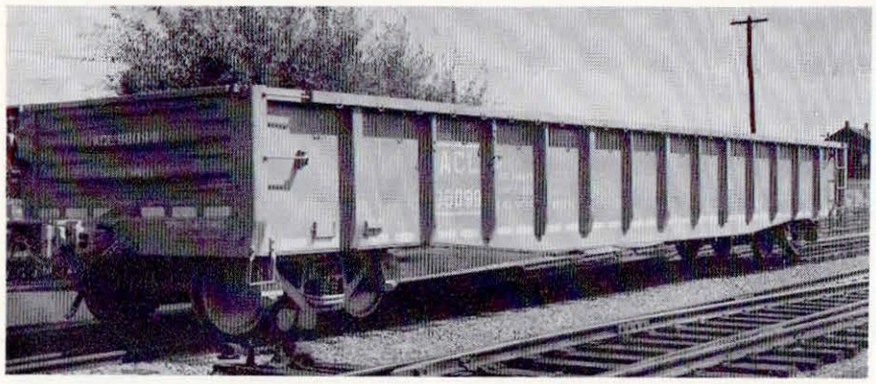

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Northwestern	152,625	151,013	146,022
Central Western	136,506	134,411	134,729
Southwestern	65,241	65,098	64,325
Total Western Districts	354,372	350,522	345,076
Total All Roads	873,559	863,690	870,529
Commodities:			
Grain and grain products	47,712	53,794	50,012
Livestock	12,963	16,112	14,563
Coal	171,378	158,319	164,286
Coke	14,687	16,254	15,229
Forest products	46,097	45,423	50,138
Ore	98,690	86,800	83,086
Merchandise l.c.l.	74,924	75,851	90,029
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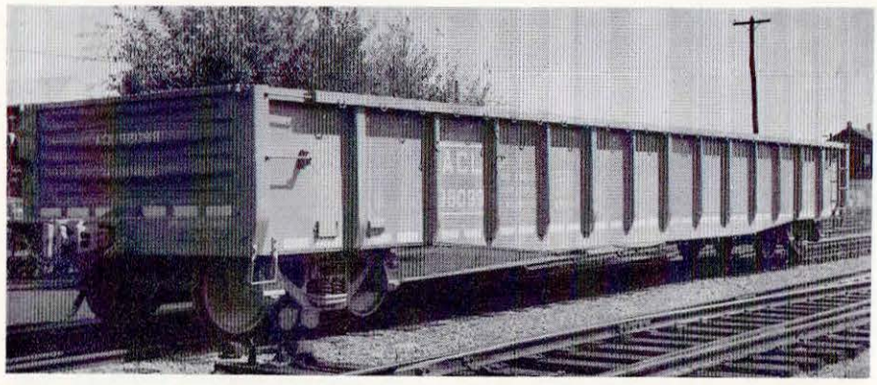

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SEVEN MORE RAILROAD MEN TAKE HARVARD COURSE

Seven railroad officers are attending the three-months "Advanced Management Program" at the Harvard Business School this fall, as follows:

Erie—David R. Thompson, assistant vice-president (traffic), and Garret C. White, assistant vice-president (operations);

Lackawanna—John P. Hiltz, Jr., engineer, maintenance of way;

Nickel Plate—Myron B. Phipps, general manager;

Seaboard — W. Vernon Lawrence, assistant comptroller;

Southern Pacific—James H. Pruett, general passenger agent; and

Western Pacific—Frank R. Woolford, chief engineer.

The program (described in detail in *Railway Age* April 9, 1951, page 38) is designed to bring industry officers thoroughly up-to-date on modern management techniques and in the solution of current managerial problems. Attendance by railway officers has been increasing during the past year or so—and several railroads, among them the SP, WP and Frisco, have been represented by up to half a dozen of their officers occupying important positions. Some 150 students attend the courses, one being given in the fall and another in the spring—representing the whole range of American industry, with some participants from overseas industry and the armed services.

they necessary? Can they, without jeopardizing the efficiency of the user, be reissued and supplemented less frequently?

The questionnaire's discussion of the questions said that expressions received by the research group from tariff users indicated that indexes "are consulted rarely, and usually as a last resort in locating tariffs applying to given situations." Reference was also made to a survey covering 65 Class I roads, which revealed that they have been spending a total of about $120,819 annually to issue tariff indexes.

AB Brake Deadlines Set For Non-Interchange Cars

Non-interchange cars (including cabooses) that may be used in transporting revenue freight must all be equipped with AB brakes by December 31, 1953, and all other non-interchange cars must be equipped by December 31, 1954.

These deadlines were set by the Interstate Commerce Commission in a September 24 order by Commissioner Patterson. The order was issued in the No. 13528 proceeding and was based on the record of a public hearing held September 15 at Chicago (*Railway Age*, August 4, page 14).

On September 25, one day after the above order was entered, Division 3 of the commission entered another in the case. It modified the proceeding's basic order by adding a stipulation which said installation of AB brakes would not be required "on cars that are used exclusively in switching operations and are not used in train movements within the meaning of the Safety Appliance Acts."

D.T.A. Reports on Study Of Public Warehousing

The Defense Transport Administration has published results of a survey of the public warehousing industry which was made by its Warehousing and Storage Division. Copies of the report, entitled "The Storage Picture," may be obtained from the D.T.A. Information Office, I.C.C. Building, Washington 25, D.C.

Southwest Shippers Board Digs Into Dirty Cars

A special committee will be named by the general chairman of the Southwest Shippers Advisory Board to ascertain how many consignees are failing to remove all debris from inbound cars before releasing them to railroads. The committee will also seek to develop how many cars placed for loading by the railroads prove to be unsatisfactory for the commodity specified by the shipper.

This action will be taken upon a suggestion of the board's executive committee which was approved in General session at its 91st regular meeting in San Antonio, September 25.

Bad odors and stains, from oil or other commodities previously loaded, were reported by one member as being responsible for $18,000 worth of claims filed for damage to flour in the first six months of this year. He added, however, that during this same period, not a single claim was filed for boll weevil infestation. He complimented the railroads of the territory for the "great stride" they had made in preparing infested cars for loading.

The board recommended that cars not suitable for loading edible commodities be so carded by the railroads. It also suggested discontinuance of paper grain doors because they had caused considerable loss of grain in transit and were "generally unsatisfactory."

D.T.A. Appointment

Frederick J. Orner has been appointed acting director of the Port Utilization Division of the Defense Transport Administration. He took over the duties of former Director Andrew F. Lane, who resigned recently.

Mr. Orner has been with D.T.A. since January 1951, when he joined the staff as special consultant on railroad car handling and utilization. Prior to receiving his present assignment, he was chief of the Operations Branch of the Railroad Transport Division.

Cross on I.C.C. Division Two for Section 5a Cases

Interstate Commerce Commissioner Cross has been designated a member of the commission's Division 2 "in lieu of Commissioner Splawn for the consideration and disposition of matters arising under section 5a of the Act";

MISSOURI PACIFIC BILLBOARDS in 25 cities in the Central West, South and Southwest—a total of 238 of them—will carry this message during October. The single word "Vote" is in a brilliant luminous chartreuse on a blue field, while the wording at the top and bottom is in red. The field, which extends to the edge of the panel, is white.

this was announced by the commission on September 22.

Section 5a is the section added by the Bulwinkle-Reed Act of June 17, 1948. It sets up arrangements whereby rate-procedures agreements among carriers may be approved by the commission and thus given immunity from anti-trust laws.

ORGANIZATIONS

Faricy to Address Traffic Clubs Convention

About 1,200 delegates representing 300 member clubs will meet in St. Paul, Minn., on October 20-22 for the annual convention of the Associated Traffic Clubs of America.

William T. Faricy, president of the Association of American Railroads, will be the principal speaker at a dinner in the St. Paul Auditorium on October 21. There also will be a panel discussion of transportation legislation; moderator for the panel will be G. H. Shaffer, general traffic manager, Weyerhauser Sales Company. Speakers to appear before regular sessions of the convention include C. H. Beard, general traffic manager, Union Carbide & Carbon Corp.; Warren Newcome, assistant general solicitor, Chicago & North Western; Walter F. Mullady, president, Decatur Cartage Company and president, American Trucking Associations; and C. T. Thompson, president, American Waterways Operators, Inc.

Business sessions will be held in the Hotel St. Paul. G. A. Erickson, president of the Transportation Club of St. Paul—host club for the convention—will be honorary general chairman for the convention.

Faricy, Knudson to Address National Shippers Boards

Talks by William T. Faricy, president of the Association of American Railroads, James K. Knudson, defense transport administrator, and James H. Aydelott, vice-president, A.A.R., will highlight the 16th annual meeting of the National Association of Shippers Advisory Boards in St. Louis on October 9. Mr. Faricy and Mr. Knudson will speak at a luncheon to be held jointly with the Traffic Club of St. Louis.

Frank H. Cross, president of the association and assistant director of traffic of General Mills, Inc., will preside over the general sessions. A report of less-carload traffic developments will be presented by Arthur P. Little, vice-president of the association and general traffic manager of the Dennison Manufacturing Company, while John N. Lind, also a vice-president of the association and assistant general traffic manager of the National Supply Company, will describe the national freight car situation. Chairman Arthur H. Gass of the A.A.R.'s Car Service Division will describe the national transportation picture.

An unusual roundtable, featuring the presidents of five U.S. railroads on special tape recordings, is one of the features planned for the annual meeting of the **American Railway Magazine Editors Association,** to be held in Santa Fe, N.M., on October 13-15. The recorded talks will cover what the presidents consider to be the industry's most pressing problems and how the editors may help toward their solution. K. C. Ingram, assistant to president, Southern Pacific, will speak on "Getting Ideas Across to People," and Dr. Lawrence C. Lockley, dean of the School of Commerce at the University of Southern California, will discuss economics as applied to railroads. The Santa Fe is official host to the group, which will hold its three-day meeting in the La Fonda Hotel.

The **American Society of Traffic and Transportation** will hold its annual meeting in St. Louis (Hotel Statler) on October 30. E. G. Plowman, president, and vice-president, traffic, of the United States Steel Corporation, will preside over the one-day meeting, which will include a morning business session, a luncheon, and an afternoon program of speeches followed by question-and-answer periods. Clyde B. Aitchison, former member of the Interstate Commerce Commission, is to speak on "Professional Standards in Traffic and Transportation Management." J. Garrett Scott, undersecretary of commerce for transportation, will also address the group.

The **Traffic Club of Kansas City** will hold a joint meeting with the **Transportation Club of Kansas City** on October 8. Following a dinner Fred E. Luebbe, president of the Associated Traffic Clubs of America and general traffic manager of the Kroger Company, will describe the organization and function of the A.T.C. and its member clubs. The meeting will be held in Drexel Hall.

The **Mid-west Shippers Advisory Board** will hold its 100th regular meeting in the Russell Lamson Hotel, Waterloo, Iowa, on October 15 and 16. Richard H. Thompson, Jr., assistant to president of the Celotex Corporation, Chicago, will be the principal speaker at a luncheon session to be held jointly with the **Waterloo Chamber of Commerce,** the **Waterloo-Cedar Falls Traffic Association** and the **Waterloo Transportation Club,** on October 16. The Illinois Central will operate a special train from Chicago to Waterloo, leaving Chicago at 4:10 p.m. October 14 and returning after the close of the meeting at 4 p.m. on the 16th. The Waterloo, Cedar Falls & Northern will provide local transportation to Tavern-on-the-Green, where Mr. Thompson will present his talk, "Transportation is Business," at the joint luncheon session.

The **Traffic Club of St. Louis** will observe "East Side Day" on October 14, and, as guests of the Terminal Railroad Association and the Alton & Southern, visit rail facilities in East St. Louis, Ill., and Granite City is a special train.

The **Eastern Car Foreman's Association** will hold its next meeting on October 10, in room 502 of the Engineering Societies building, 29 West 39th street, New York, at 7:45 p.m. "Accident Prevention in the Car Department" will be the subject of an address by W. C. Laraway, supervisor of safety, Delaware & Hudson. Motion pictures on the subject also will be shown. A buffet supper will be held in the Old Timers Grill, 7 East 40th street, at 6 p.m.

The 45th annual meeting of the **National Industrial Traffic League** will be held at the Statler Hotel, New York, November 20-21, with a two-day meeting of the executive committee on November 18-19. Arthur C. Schier, vice-president in charge of traffic, General Foods Corporation, New York, is general chairman. The annual luncheon will be held on November 20.

The **National Railway Historical Society** will hold a railfan trip on the Baltimore & Ohio on October 19. A two-section train, one section from Uhrichsville and one from Canton, Ohio, will meet at Akron Junction, where it will combine and continue to Painesville, Ohio. For further information write S. C. Lord, publicity director, Midwest Chapter, N.R.H.S., 693 Talbot avenue, Akron 6, Ohio.

EQUIPMENT AND SUPPLIES

Domestic Equipment Orders Reported in September

Domestic equipment orders for 127 diesel units, 3,782 freight-train cars, and 113 passenger-train cars were reported by individual purchaser in *Railway Age* in September. Estimated cost of the diesel units is $20,669,000; of the freight-train cars, $21,675,000; and of the passenger-train cars $12,000,000. An accompanying table lists the orders in detail.

During the first nine months of 1952, *Railway Age* has reported domestic orders by individual purchaser for 1,077 diesel units and 15 steam and 10 electric locomotives costing an estimated $172,476,000; 28,194 freight-train cars costing an estimated $174,726,000; and 405 passenger-train cars costing an estimated $49,718,016.

DOMESTIC EQUIPMENT ORDERS REPORTED IN SEPTEMBER

Locomotives

Purchaser	No.	Type	Issue Reported	Builder
A&WP	1	1,500-hp. Gen. Purpose	Sept. 8	Electro-Motive
CofG	12	1,600-hp. Rd.-Sw.	Sept. 29	American-G.E.
	4	1,200-hp. Switching	Sept. 29	Fairbanks, Morse
	4	1,200-hp. Switching	Sept. 29	Baldwin-Lima-Hamilton
	4	1,200-hp. Switching	Sept. 29	Electro-Motive
CR:&P	30	1,500-hp. Gen. Purpose	Sept. 15	Electro-Motive
C&S	10	1,500-hp. Switching	Sept. 1	Electro-Motive
DL&W	6	1,600-hp. Rd.-Sw.	Sept. 29	Fairbanks, Morse
DT&I	7	1,500-hp. Gen. Purpose	Sept. 8	Electro-Motive
FW&D	2	2,250-hp. Passenger	Sept. 1	Electro-Motive
	8	1,500-hp. Switching	Sept. 1	Electro-Motive
Georgia	2	1,500-hp. Gen. Purpose	Sept. 1	Electro-Motive
MC	6	1,500-hp. Gen. Purpose	Sept. 8	Electro-Motive
	2	660-hp. Switching	Sept. 8	American-G.E.
M&StL	2	1,500-hp. Rd.-Sw.	Sept. 8	Electro-Motive
WM	2	3-unit 4,500-hp.	Sept. 15	Electro-Motive
	4	2-unit 3,000-hp.	Sept. 15	Electro-Motive
	2	1,500-hp. "B"	Sept. 15	Electro-Motive
	10	1,600-hp. Rd.-Sw.	Sept. 15	American-G.E.
WofA	1	1,500-hp. Gen. Purpose	Sept. 8	Electro-Motive

Freight Cars

Allied Chem. & Dye Corp.*	50	70-ton Tank	Sept. 15	Amer. Car & Fdy.
AT&SF	500	Hopper	Sept. 22	R.R. Shops
	500	Gondola	Sept. 22	R.R. Shops
	250	Covered Hopper	Sept. 22	R.R. Shops
B&O	12	Caboose	Sept. 1	R.R. Shops
Bangor & Aroostook	107	40-ton Refrigerator	Sept. 1	Pacific Car & Fdy.
CofG	25	70-ton Cov. Hopper	Sept. 1	Pullman-Standard
	25	70-ton Cov. Hopper	Sept. 29	Pullman-Standard
CB&Q	1	125-ton Flat	Sept. 22	R.R. Shops
CRI&P	200	Gondola	Sept. 15	Pullman-Standard
North American Car Corp.	75	70-ton Cov. Hopper	Sept. 22	Pullman-Standard
StL-SF	1	125-ton Flat	Sept. 29	R.R. Shops
StLSW	1	125-ton Flat	Sept. 22	R.R. Shops
SP	1,000	70-ton Flat	Sept. 22	R.R. Shops
	800**	50-ton Gondola	Sept. 22	R.R. Shops
	100†	70-ton Gondola	Sept. 22	R.R. Shops
	100†	50-ton Pulpwood	Sept. 22	R.R. Shops
TM	30	70-ton Gondola	Sept. 22	Pullman-Standard
	5	70-ton Hopper	Sept. 22	Pullman-Standard

* For the Solvay Process division.
** Including 450 hopper-bottom and 350 tight-bottom cars.
† For service on the T&NO.

Passenger Cars

AT&SF	45	Chair	Sept. 29	Budd
	8	Dome-Lounge	Sept. 29	Budd
	50	Baggage	Sept. 29	Budd
	10	R.P.O.	Sept. 29	Budd

FREIGHT CARS

The **International-Great Northern** and the **St. Louis, Brownsville & Mexico,** subsidiaries of the Missouri Pacific, will each be assigned ownership of 500 50-ton box cars to be built in the MP's DeSoto, Mo., shops. The 1,000 single-door steel cars will cost over $6,200,000 and construction is to begin before the end of 1952.

PASSENGER CARS

Northern Pacific to Order 24 Passenger Cars

Orders for new passenger equipment—including 10 dome coaches, six dome sleeping cars, two dining cars, four sleeping cars and two coaches—will soon be placed by the Northern Pacific.

The dome cars will be used to re-equip partially the streamlined "North Coast Limited," which, on November 16, will go on a new 46½-hr. schedule between Chicago and Seattle. The new schedule calls for a reduction of 12 hours westbound, and 9¼ hours eastbound, over the present schedule, and places the "North Coast Limited" on a schedule par with the "Empire Builder" of the Great Northern and the "Olympian Hiawatha" of the Milwaukee, between the same termini.

The speedup will be accomplished by relieving the "North Coast Limited" of present head-end traffic duties at intermediate stations through creation of a new, secondary transcontinental train, to be known as the "Mainstreeter," to operate on a schedule comparable to that now in effect for the "North Coast Limited." The "Mainstreeter" will offer through coach, tourist and Pullman service from Chicago, according to present plans. It will replace the present "Alaskan," a Twin Cities-Spokane local train handling sleeping cars only between several intermediate cities. The "Mainstreeter" will also provide through dining car service, whereas meal service on the "Alaskan" has been at station restaurants.

In addition to new equipment for the "North Coast Limited," the NP has been rebuilding its present lunch-counter-diner combination cars into full-length dining cars. Other lightweight equipment is being refurbished. Present plans call for operation of two dome coaches and one dome sleeping car on each of the five units of the "North Coast." One dome sleeping car will be held for stand-by service. The two dining cars to be ordered will be assigned to other runs entirely. The two coaches will be used as "fill-ins" and the four extra sleeping cars will be assigned as traffic conditions require.

A revision of main line local schedules also will be carried out on November 16. A St. Paul-Mandan (N.D.) local will be inaugurated to handle both head-end and passenger traffic formerly handled by the "Alaskan."

The **Chicago & Eastern Illinois** has ordered 10 all-stainless-steel, 58-passenger coaches from the Budd Company. The cars, scheduled for delivery in fall 1953, will be used in local and through service.

SIGNALING

The **New York Board of Transportation** has ordered from the Union Switch & Signal Division of the Westinghouse Air Brake Company material to install electro-pneumatic interlockings at Dyer Avenue and Morris Park. The new interlockings will be remotely controlled from a route-type machine to be installed at 180th Street. Morris Park will be controlled by direct wire and Dyer Avenue by code. The order also includes color-light signals, electro-pneumatic switch machines and train stops, relays, rectifiers, transformers and housings.

The **St. Louis-San Francisco** has ordered from the Union Switch & Signal Division of the Westinghouse Air Brake Company material to install centralized traffic control on 14.8 miles of single track, and 4.3 miles of double track, between Turrell, Ark., and Bridge Junction. In addition to the style C control machine and code equipment, the order includes styles H-2 searchlight signals, M-23 dual-control electric switch machines, SL-6A electric switch locks, relays, transformers, and switch circuit controllers. Field installation will be handled by railroad forces.

SUPPLY TRADE

Griffin to Produce X-3 Wheel in U.S., Canada

The Griffin Wheel Company, a wholly owned subsidiary of American Steel Foundries, has announced expansion of its pilot plant at Chicago for producing Association of American Railroads X-3 type steel freight car wheels. The company also plans construction of a car wheel foundry at St. Hyacinthe, Que., to be known as Griffin Steel Foundries, Ltd., which will likewise produce the new X-3 wheels.

When the pilot plant at Chicago is enlarged, it will have a capacity of about 360 wheels a day. X-3 wheels, which have been approved for freight interchange service in limited quantities, are made of about 0.75 per cent carbon steel melted in an electric furnace and forced into permanent molds. Upon removal from the molds, the wheels are placed in heat-treating

(Continued on page 126)

FREEDOM WHEELS KEEP ROLLING

Freedom Wheels are the most successful way yet found to combat thermal cracking under the severe braking conditions caused by today's high-speed operations. Over 500,000 now in service. Ask a user—try them yourself.

STANDARD STEEL WORKS DIVISION
BURNHAM, PA.

BALDWIN - LIMA - HAMILTON

GENERAL OFFICES: PHILADELPHIA 42, PA.
OFFICES IN PRINCIPAL CITIES

Rolling Steel DOORS

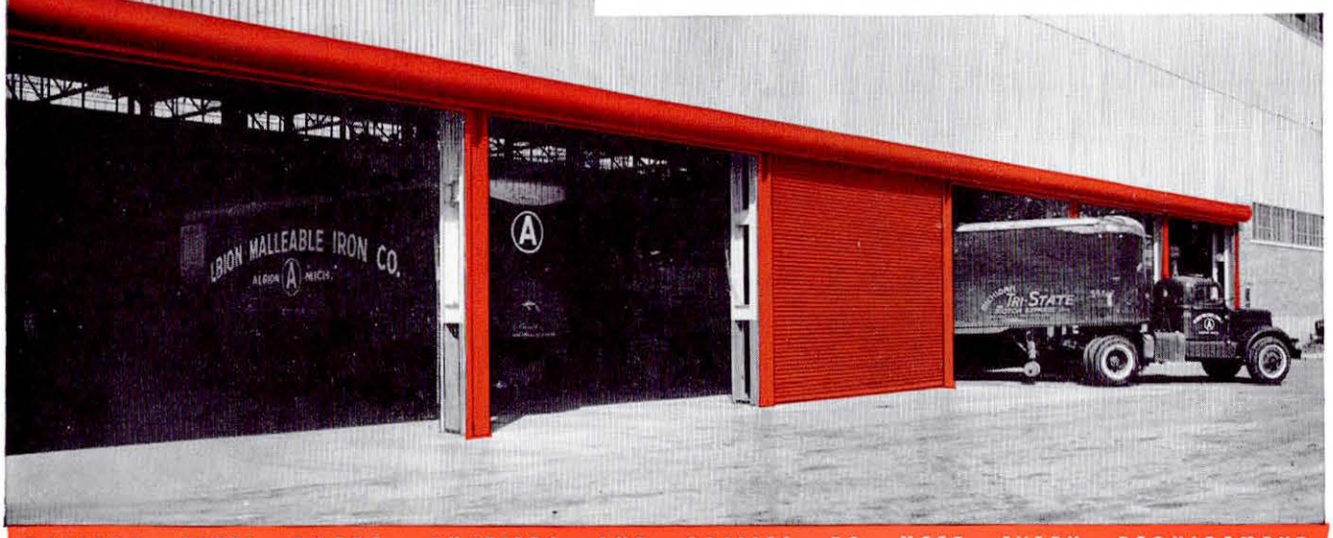
Manually, Mechanically, or Power Operated

Illustrated below you see six Mahon Power Operated Rolling Steel Doors installed in the openings of a combination truck and rail shipping dock. The power operators are located inside with through-the-wall drives. A continuous hood over the roller shafts and operating mechanisms extends the entire length of the six truck openings. This is another typical installation where no other type of door would serve the purpose—because, the vertical roll-up action of a Rolling Steel Door eliminates overhead obstructions—occupies no usable space inside or outside the opening. All-metal construction provides permanence, greater security, and assures you a lifetime of trouble-free service. When you select Rolling Steel Doors, it will pay you to compare both specifications and price tags . . . you will find that the hot-dipped galvanized curtain slat material that goes into Mahon Rolling Steel Doors is chemically cleaned, phosphated and treated with a chromic acid solution to provide paint bond, and that the protective coating of synthetic enamel is baked on at 350° F. prior to roll-forming. This is just one of the extra value features of Mahon Rolling Steel Doors. See Sweet's Files for complete information including Specifications, or write for Catalog G-53.

THE R. C. MAHON COMPANY

Detroit 34, Michigan • Chicago 4, Illinois • Representatives in all Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls and Wall Panels; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms.



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Six Mahon Power Operated Rolling Steel Doors 18'-7" x 14'-0" installed in a new building built by the Austin Company for the Albion Malleable Iron Works, Albion, Michigan. Another Mahon Power Operated Door 17'-0" x 22'-0" is installed in a railroad opening in the end of this enclosed loading dock.

MAHON

HOW MANY LIVES HAS A BOX CAR?

If you take a fast look around at all the old cars still running, you might think a box car has as many lives as a cat. Box cars have just one life. Nothing you do really makes an old car young again. Repair, refinish, rebuild... and you've still got an old car on your hands. Spend what you may and the car grows not one day younger.

Old cars stagger under the maintenance costs

No matter how much new life your rebuilt car seems to have, it's bound to be back in the repair shop soon. Rebuilt or not, an old freight car needs constant, expensive maintenance... it must be pampered like a pedigreed persian!

The double penalty of cars out for repairs

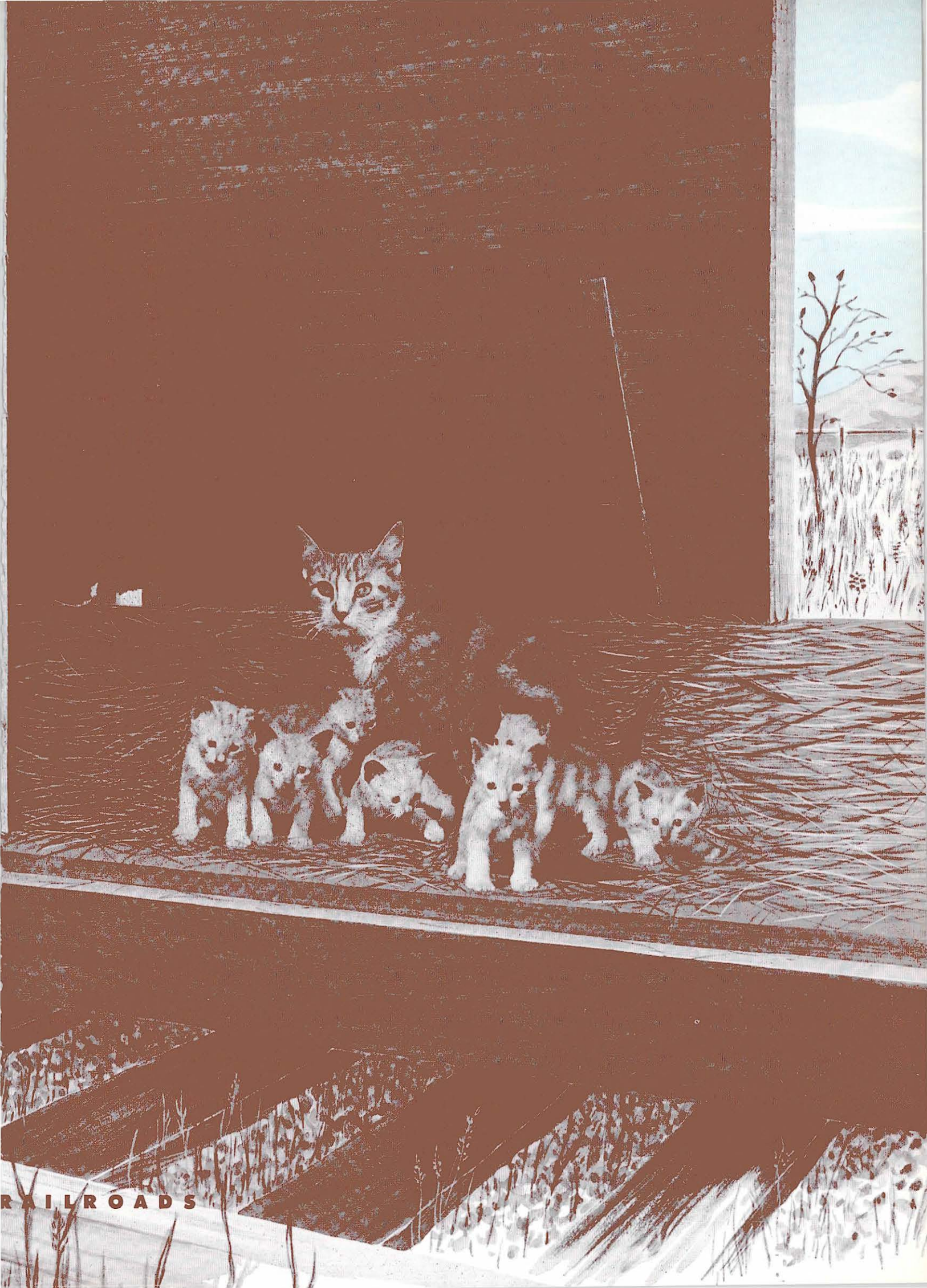
Old cars not only run up huge repair bills, they lose additional revenue every day they're not in operation. That's why smart Railroadmen are turning to new cars for trouble-free new-car service. And when those cars are A.C.F.-built you're sure of the dependable service that made A.C.F. famous.

How to find out about A.C.F. all-welded cars

Right now, your experienced A.C.F. Representative is waiting to show you the tremendous advantages of mass produced A.C.F. all-welded construction. For the money saving facts, get in touch with him soon.

American Car and Foundry Company, New York
Chicago · St. Louis · Washington
Philadelphia · Cleveland · San Francisco

A.C.F. CAR BUILDERS TO AMERICA'S


RAILROADS

SPECIALISTS IN 'G'* WAUGH CONTROL

High accelerations ("G"s), as well as rapid changes in accelerations, damage both cars and lading and, every year, cost American railroads fantastic sums.

"G" control is Waugh business. From the inception of the company, Waugh engineers specialized on devices designed to control harmful accelerations during the movement, starting and stopping and classification of railroad cars.

Out of this specialization in "G" control came Waughmat Twin Cushions . . . the modern double-action draft gear which is unconditionally A.A.R. approved and has been proven by more than 20 years service experience on American railroads.

Waughmat Twin Cushions reduce "G" peaks but, far more important, they greatly reduce destructive violent changes in "G"s, longitudinal and vertical jerks and jolts, to produce a corresponding shock reduction.

It is shock that damages lading. Rapid changes in "G"s produce shock. Twin Cushions dampen "G" changes to a far greater degree than conventional draft gears. Result: exceptional car and lading protection.

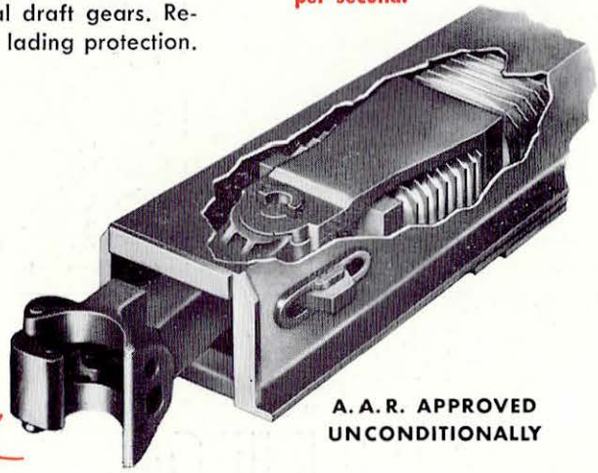
* "G", the unit of change in velocity which is equal to the pull of gravity or 32.2 feet per second per second.

For "G" control . . . Specify

WAUGHMAT

Twin Cushions

TRADE MARK REGISTERED



A. A. R. APPROVED UNCONDITIONALLY

WAUGH EQUIPMENT COMPANY, New York · Chicago · St. Louis · Canadian Waugh Equipment Company: Montreal

SCULLIN SALUTES

Another great railroad . . .
with whose honored name
we have been proud to have ours coupled
as suppliers of Fine Steel Castings
throughout half its century of planned progress . . .

Rock Island

A CENTURY OF SERVICE
1852 - The Road of Planned Progress - 1952

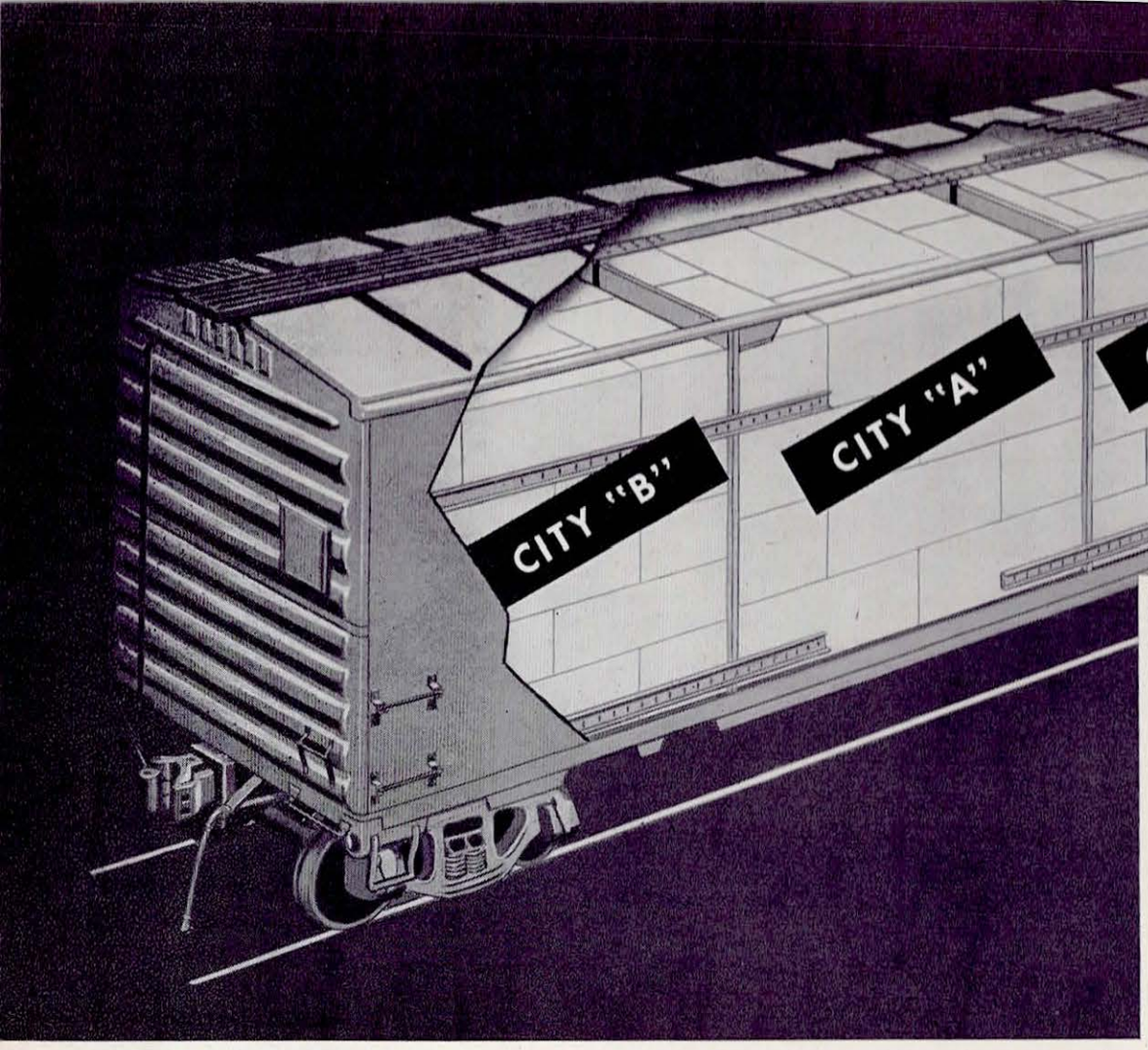
Photo Courtesy
Rock Island Railroad

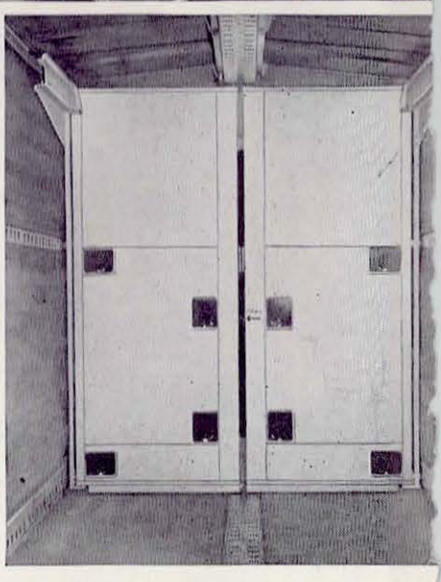
STEEL CASTINGS MANUFACTURER

NEW YORK
CHICAGO
BALTIMORE
RICHMOND, VA.

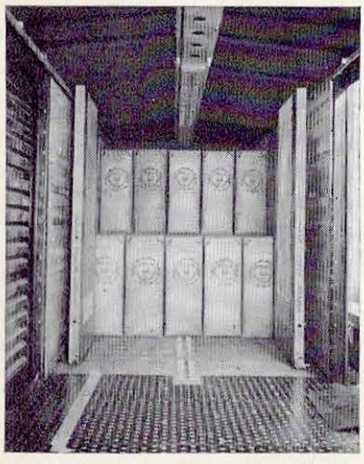
SCULLIN STEEL CO.

SAINT LOUIS 10, MISSOURI

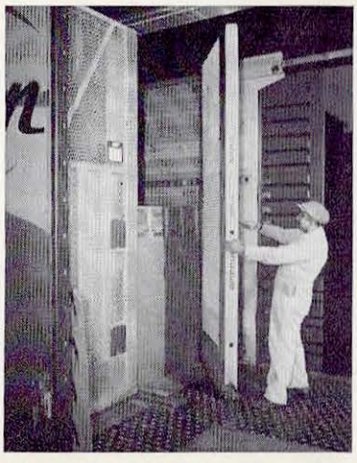




Installed, as illustrated in the cutaway model of a box car, the heavy-duty gates are carried on trolley rails for easy movement from door opening to car end providing three compartments adjustable to the size of the lading. The two locking rails on each side and one on the floor are mounted flush to protect lading. These, along with the locking rail extended down from the roof, give each pair of gates eight locking points. Sheet steel surfaces, replacing the wire mesh, are used in the gates of the improved Compartmentizer now being furnished.



The lading is in place at one end of the freight car. The Compartmentizer is ready to be locked tightly against the shipment—top, sides, and bottom. The gates are center locked by handle mechanisms in the gate, making it easy for one man to handle the operation. The size of the compartment can be varied to fit the shippers' requirements.



Two locking bars at the pivot edge of each gate engage in holes located in metal locking strips fastened to the car side. Holes in the metal strips in the floor and at roof corresponding to those on the sides, receive the vertical locking bars. The bars can be easily and securely locked in the holes when the gate is placed in its closed position.

The center compartment is loaded. This lading can be unloaded easily at a point en route to the car's final destination. The possibility of one consignee unloading material destined for another is abolished. The Compartmentized PS-1 should not be regarded as a special purpose car, for the gates, when locked against car end, take only 4½ inches of space.

H. E. Poulterer, Vice-President-Traffic, Western Pacific Railroad, tells how Pullman-Standard Compartmentizers helped reduce damage claims to a minimum on this railroad. (See next page).

SUBSIDIARY OF

PULLMAN

CAR BUILDING DIVISION

79 EAST ADAMS STREET, CHICAGO 3, ILL. • BIRMINGHAM

Compartmentized PS-1s

Because it means trouble-free, damage-free shipment of various types of goods, the Compartmentized PS-1 is the most adaptable means of protecting freight shipments. Many studies have proved the value of Compartmentizers in minimizing costly damage claims. On the Western Pacific, Compartmentizers have proved to be ideal for case or crated loadings such as bottled goods, household appliances, and canned goods . . . especially for stop-off loads.

helped the Western Pacific

Besides the ability to cut damage claims to the bone, the Pullman-Standard Compartmentizer eliminates the need for dunnage through its sturdy metal gates. Easily installed, the Compartmentizer results in more efficient car use by increasing productive time and by shortening turn-around time. Labor costs, too, are lowered—just close the gates against the load and lock—a one man operation. The Compartmentizer provides sealed compartments for segregating stop-off loads and thus prevents loss from errors and pilferage.

reduce damage claims to a minimum

You can prove to yourself the money-saving advantages of the Compartmentized PS-1 by contacting your nearest Pullman-Standard office. PS-1 Freight Cars can be ordered already equipped with Compartmentizers. We can also provide the "packaged" Compartmentizer, which you can install. Or, if you wish, we will equip your present PS-1 box cars with Compartmentizers in our shops.

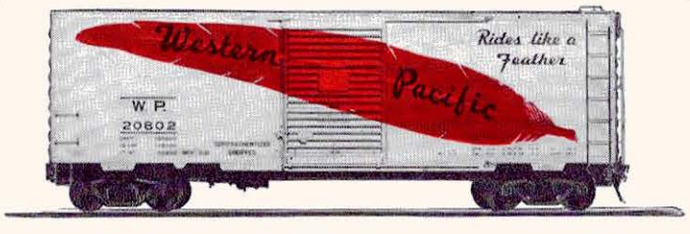
WESTERN PACIFIC

"The Western Pacific has had 20 compartmentizer PS-1s built by Pullman-Standard, in use since last Fall. The damage-prevention advantages of the compartmentizer have given us a clean record from damage claims in handling commodities such as television sets, household appliances, glassware, packaged cereals, medical supplies, and many other types of goods, especially those of a fragile nature.

Shipper acceptance has been gratifying, for not only does the compartmentizer eliminate the need for dunnage, thereby reducing loading costs, but it also assures much better protection for their products.

The compartmentizer is a potent factor in meeting competition of other forms of transportation, particularly where partial unloading is involved and careful handling is of prime consideration. Our records on the condition of shipments at transit point and destination have proved to our satisfaction that the compartmentized PS-1 can reduce damage claims to a minimum."

H. E. Poulterer
Vice-President-Traffic
Western Pacific Railroad

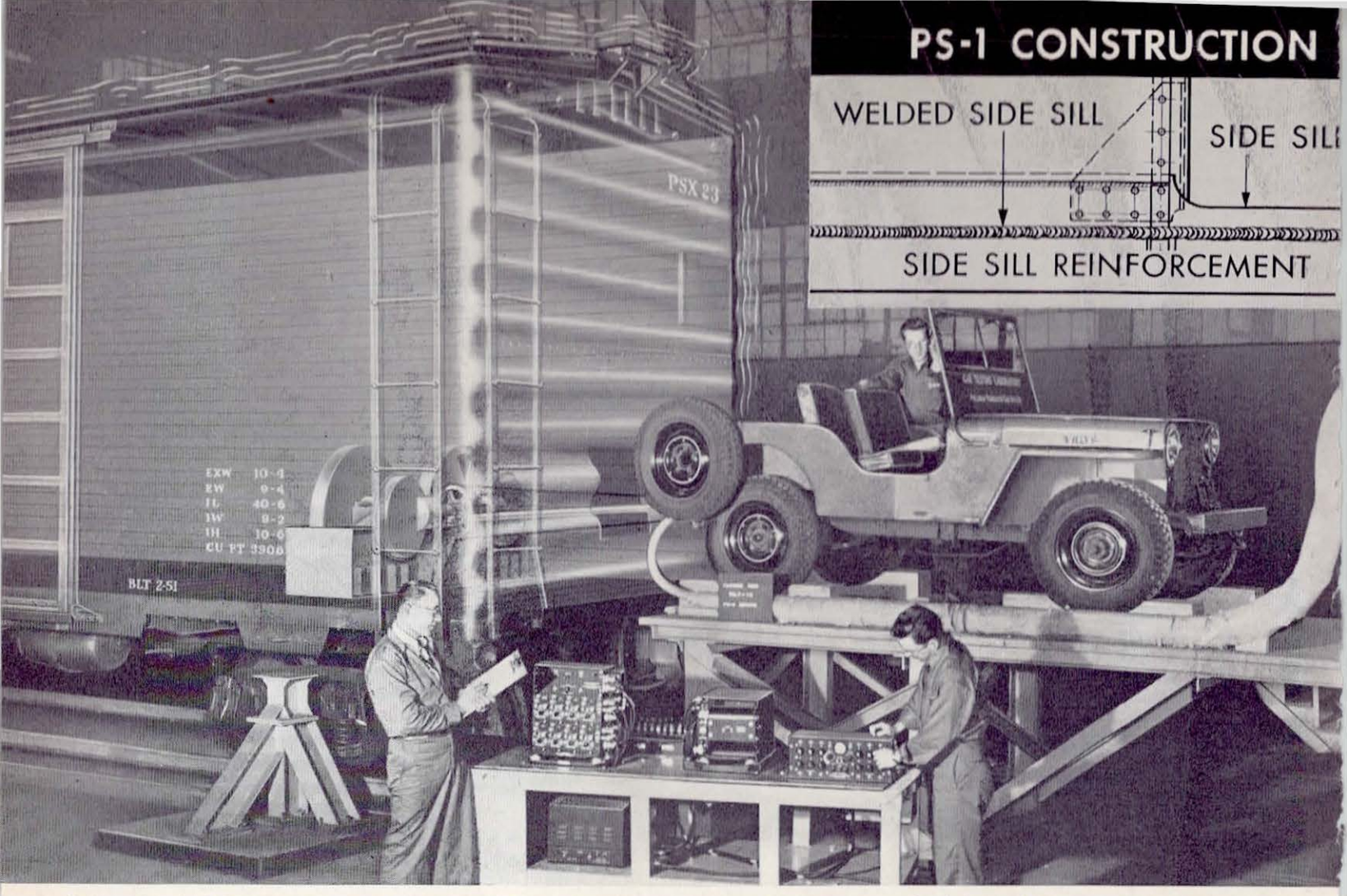


The Compartmentized PS-1 offers many advantages to both carrier and shipper. It is quick and easy to use. Standard installation, two pairs of gates to a car—one pair at each end—forms three compartments.

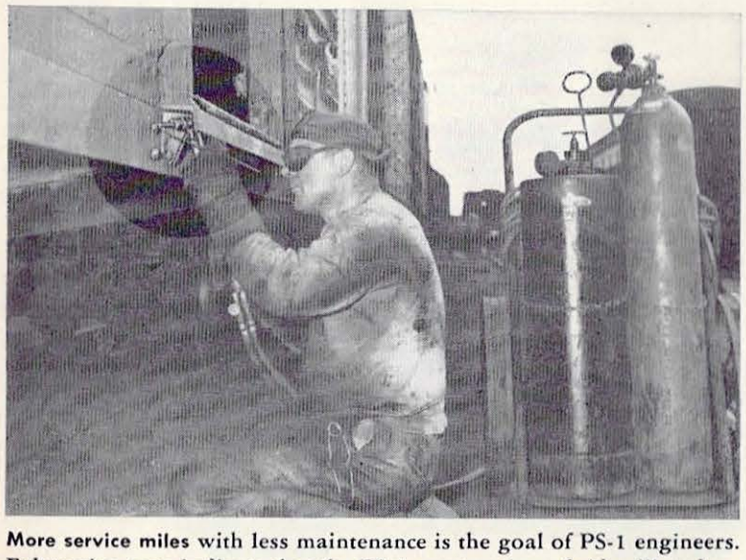
PULLMAN INCORPORATED

STANDARD CAR MANUFACTURING COMPANY

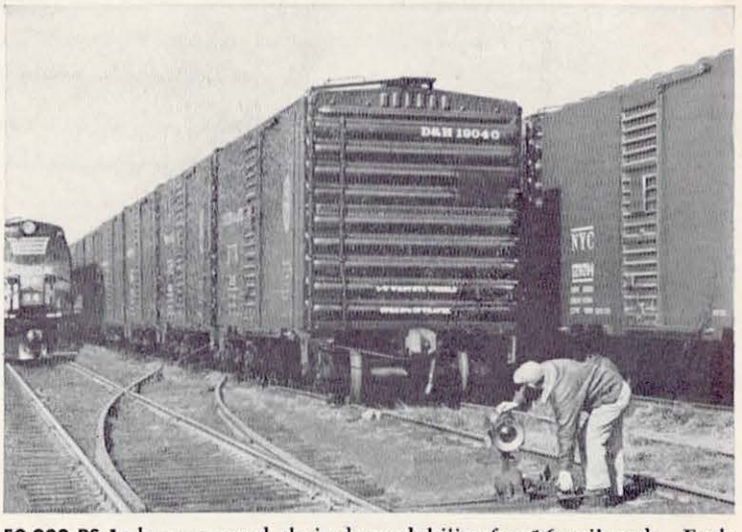
PITTSBURGH • NEW YORK • SAN FRANCISCO • WASHINGTON



Pullman-Standard Research & Development engineers try to anticipate trouble by subjecting the PS-1 to tests such as the one shown above. In this grueling fatigue test, simulating speeds of 50 mph., the jeep drives an oscillating device (shown in the phantom view), mounted over the center sill at the bolster. Two eccentric flywheels build up a vibration so severe that the lading actually leaves the floor. The inset drawing shows one of the many construction features that enables the PS-1 to give more service miles with less maintenance.



More service miles with less maintenance is the goal of PS-1 engineers. Exhaustive tests indicate that the PS-1 construction of side sill and reinforcement at the doorway has overcome the costly maintenance experienced at this location in many other current designs of cars. Field research of "on-line" conditions led to improved construction and design of the PS-1, to make it a better box car.



50,000 PS-1s have proved their dependability for 56 railroads. Each PS-1 is completely standardized and each is built to the strict specification of the Pullman-Standard. Orders can be placed for one or as many PS-1s as required. Many railroads have reordered this outstanding box car as many as four or five times, in quantities ranging from one to 3,000 . . . facts that prove railroad acceptance.

SUBSIDIARY OF

PULLMAN

CAR BUILDING DIVISION

79 EAST ADAMS STREET, CHICAGO 3, ILL. • BIRMINGHAM

Research and development

Freight cars must be built for tough service . . . for operating conditions that are constantly changing. By duplicating "on-line" conditions in the laboratory, Pullman-Standard Research and Development actually anticipates problems that might arise. This, plus field research and engineering, keeps the PS-1 in a state of continual development, making it a better and better buy.

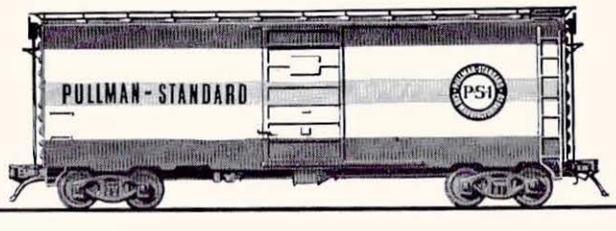
keep the PS-1

One reason why the PS-1 is a better box car is that Pullman-Standard engineers look for trouble, so that the PS-1 can be improved. For example, they found that a stronger side sill arrangement was required at the doorway to overcome the costly maintenance experienced at this location in many other current designs of box cars. The results of tests, such as the one shown at the left, were embodied in the design and construction of the PS-1 to make it a superior box car.

up to the "Pullman" standard

The PS-1 is being bought and reordered by a majority of the country's leading railroads. Quantities run from one to 3,000. Any railroad can order as many PS-1s, or as few, as needed. If you require fast delivery on an outstanding box car—at lower costs—get the facts on the PS-1.

When you come to Chicago, you are cordially invited to visit our Michigan Avenue Industrial Showroom.



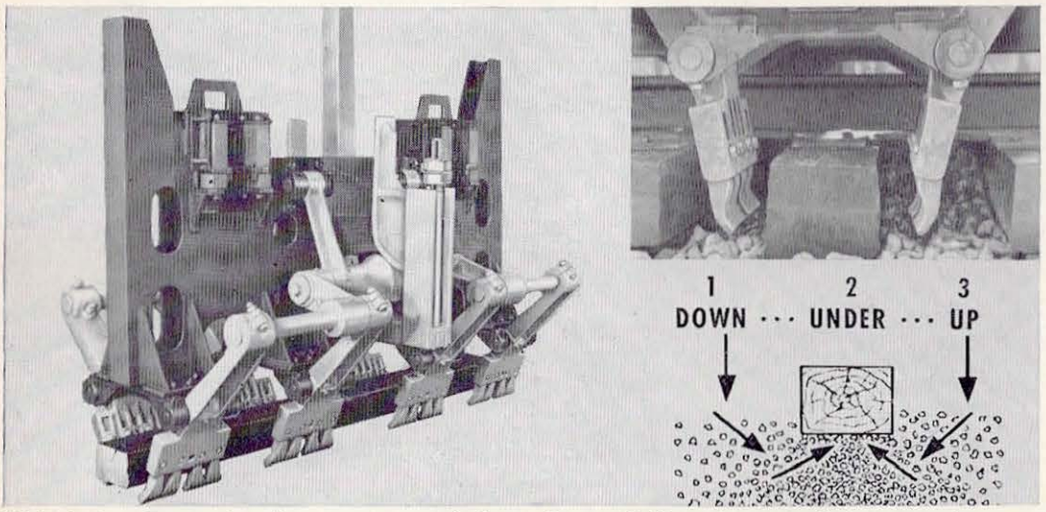
The RECORD BREAKING **PS-1**

PULLMAN INCORPORATED

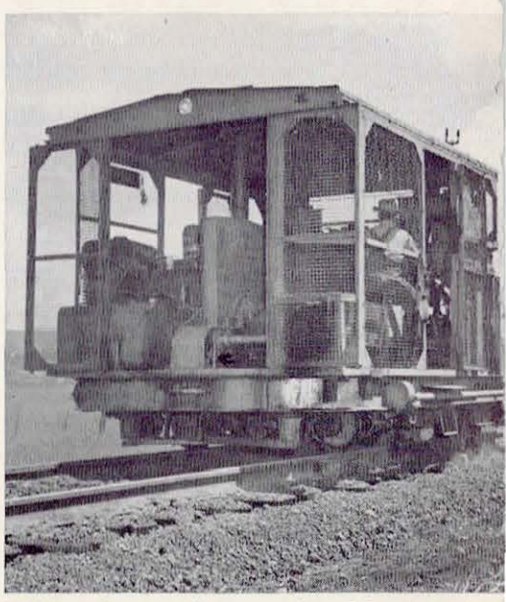
STANDARD CAR MANUFACTURING COMPANY

PITTSBURGH • NEW YORK • SAN FRANCISCO • WASHINGTON

Single track—requires speed, flexibility and reliability. The above illustration shows the self-propelled set-off operation of the Power Ballaster on the Denver & Rio Grande Western R. R., Moffatt Division, milepost 103, near Kremmling, Colorado. Maintenance work is done under traffic (8 to 10 train interruptions per trick)—on this single track railroad in the most mountainous terrain of the United States. The Power Ballaster is completely self-propelled; and has a set-off mechanism which enables four men to set the unit off laterally in 3 to 5 minutes. Delays due to train interruptions are thus reduced to a minimum. The Ballaster's high production rate makes maximum use of available track time.



Triple-Action Compaction is one secret of the Power Ballaster's ability to produce better, longer-lasting track. Left: The drop-head assembly applies tamping force equally to all tamping bars and delivers 36 complete tamping strokes a minute. A free-falling drop-head combined with cam action provides a tamping force which increases throughout the tamping stroke and tamping cycle, and produces maximum ballast compaction under the tie. A readily made adjustment regulates the depth reached by the Power Ballaster's controlled compaction—applies maximum tamping force exactly where wanted. Upper right: Because the Power Ballaster has 32 tamping bar positions and five different sizes of quickly interchangeable tamping bars, the Power Ballaster: (a) is a universal machine, (b) produces an under-tie-and-rail area of compaction fully meeting A.R.E.A. specifications, and by the methods specified by the A.R.E.A. Lower right: Diagram shows triple-action compaction.



High running speed—25 m.p.h.—of the Power Ballaster makes it possible to clear and get to and from work locations quickly. Its high production speed is especially important where work must be done under traffic and on single track. And its reliability assures mechanical trouble-free performance throughout the work season.

SUBSIDIARY OF

ROAD & TRACK EQUIPMENT DIVISION **PULLMAN**

BIRMINGHAM • PITTSBURGH • NEW YORK • WASHINGTON • SAN FRANCISCO • **79 EAST ADAMS STREET**

Pullman-Standard POWER BALLASTER

Faster! Faster! Faster! The demand for speed and more speed is an ever-present challenge to railroad men and to the manufacturers of equipment. Mechanized tamping is no exception. The fact that the Power Ballaster meets this challenge, while tamping all types of ballast, is proved time and time again on many lines. But equally important, the Power Ballaster combines high speed production with low-cost, quality tamping. For example, the Power Ballaster purchased by the Rio Grande four years ago saved $70,000 in out-of-pocket cost the first year. And it goes right on making savings.

helped the Rio Grande

In addition to its speed and economy features, the Power Ballaster produces longer lasting track. A squared under-tie-and-rail compaction is obtained by the methods and to the specifications established by A.R.E.A. standards. The results: true cross-level tamping, uniform compaction, less settlement, *and longer track life.* The normal production rate is 500 to 700 feet per hour. Many exclusive labor-saving features reduce crew requirements to as few as 10 to 15 men. The Power Ballaster requires only a single operator, and because of the Power Ballaster's design, minor repairs and adjustments can be made by the operator at the work location. The Power Ballaster's 1951 availability rate was 96.6% of production time.

save $70,000 the first year

For more feet of finished tamped track per hour, for higher availability, for lower labor and maintenance requirements—the Power Ballaster's established record cannot be equaled by any production tamper available today.

And you can prove it while tamping your own ballast. Just choose one of these four ways: (1) outright purchase; (2) rental for 90 days, with option to buy (with all rental payments applied to purchase price); (3) straight rental for a minimum period of three months; (4) deferred quarterly payments over a period of 1 to 3 years. The rentals and deferred payments are established at substantially less than the realizable savings accruing during the payment periods.

MAIN LINE Rio Grande THRU THE ROCKIES

A leading financial newspaper has headlined the savings made by the Rio Grande. The article states that the savings are made through the use of "Mechanical Monsters which dig the stones from between the rails, brush the dirt off of them, and pack them back into place".

The records show, for example, that the Pullman-Standard Power Ballaster saved the Rio Grande $70,000 in out-of-pocket costs during the first year of its use. The Power Track Cribber, which was also pioneered by the Rio Grande, saved an additional $47,000 during its first year of operation.

In these ways, the Rio Grande, leader in the use of all types of mechanized track work equipment, including bulldozers, crawler-mounted drag lines and shovels, has materially lowered its maintenance of way costs in recent years, despite the rising costs of labor and materials.

Here's what YOU can expect from the POWER BALLASTER:

- Longer Lasting Track
- More Production
- Lower Labor Requirement
- Universal Application
- Maximum Use of Track Time
- Easy Operation and Maintenance
- Long Equipment Life
- Versatile Production

Your assurance: PULLMAN-STANDARD has been one of the great U. S. railroad equipment suppliers for 73 years; its time proven integrity and reliability are behind the POWER BALLASTER to protect your equipment investment and to assure a factory stand-by of spare parts and continuing factory service.

Write for booklet containing complete detailed engineering data and operating facts about the POWER BALLASTER. When you come to Chicago, visit our Michigan Avenue Industrial Showroom.

PULLMAN INCORPORATED

STANDARD CAR MANUFACTURING COMPANY

CHICAGO 3, ILL. • THE HOLDEN CO., LTD., MONCTON • MONTREAL • TORONTO • WINNIPEG • VANCOUVER

...time does not affect Streamlite HAIRINSUL

The installation of Streamlite HAIRINSUL into new refrigerator cars is a one time investment. *Streamlite HAIRINSUL actually outlasts the life of the car!*

It can be re-used without need for further processing. Records show where all-hair insulation, removed from refrigerator cars after 20 years or more of service, is in "like-new" condition. Its high insulating efficiency remains the same year in and year out.

In addition, Streamlite HAIRINSUL assures you all the advantages at the right—and more, too. Write for complete data.

LOW CONDUCTIVITY. Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity — .25 btu per square foot, per hour, per degree F., per inch thick.

LIGHT WEIGHT. Advanced processing methods reduce weight of STREAMLITE HAIRINSUL by 40%.

PERMANENT. Does not disintegrate when wet, resists absorption. Will not shake down, is fire-resistant and odorless.

EASY TO INSTALL. Blankets may be applied to car wall in one piece, from sill to plate and from one side door to the other. Self-supporting in wall sections between fasteners.

COMPLETE RANGE. STREAMLITE HAIRINSUL is available ½" to 4" thick, up to 127" wide. Stitched on 5" or 10" centers between two layers of reinforced asphalt laminated paper. Other weights and facings are available.

HIGH SALVAGE VALUE. The all-hair content does not deteriorate with age; therefore has high salvage value. No other type of insulation offers a comparable saving.

Sets The Standard By Which All Other Refrigerator Car Insulations Are Judged

Dept. H-210, Merchandise Mart, Chicago 54, Ill.

MO-PAC

combines RAILS and ROADS

to move

your merchandise

f-a-s-t-e-r

COORDINATED TRAIN-TRUCK EAGLE MERCHANDISE SERVICE speeds the deliveries of less-than-carload shipments at hundreds of stations along our 10,000 mile system.

Your merchandise is rushed by rail to designated "break bulk" stations . . . transferred quickly and efficiently from train to truck . . . then enjoys fast, final delivery to its destination.

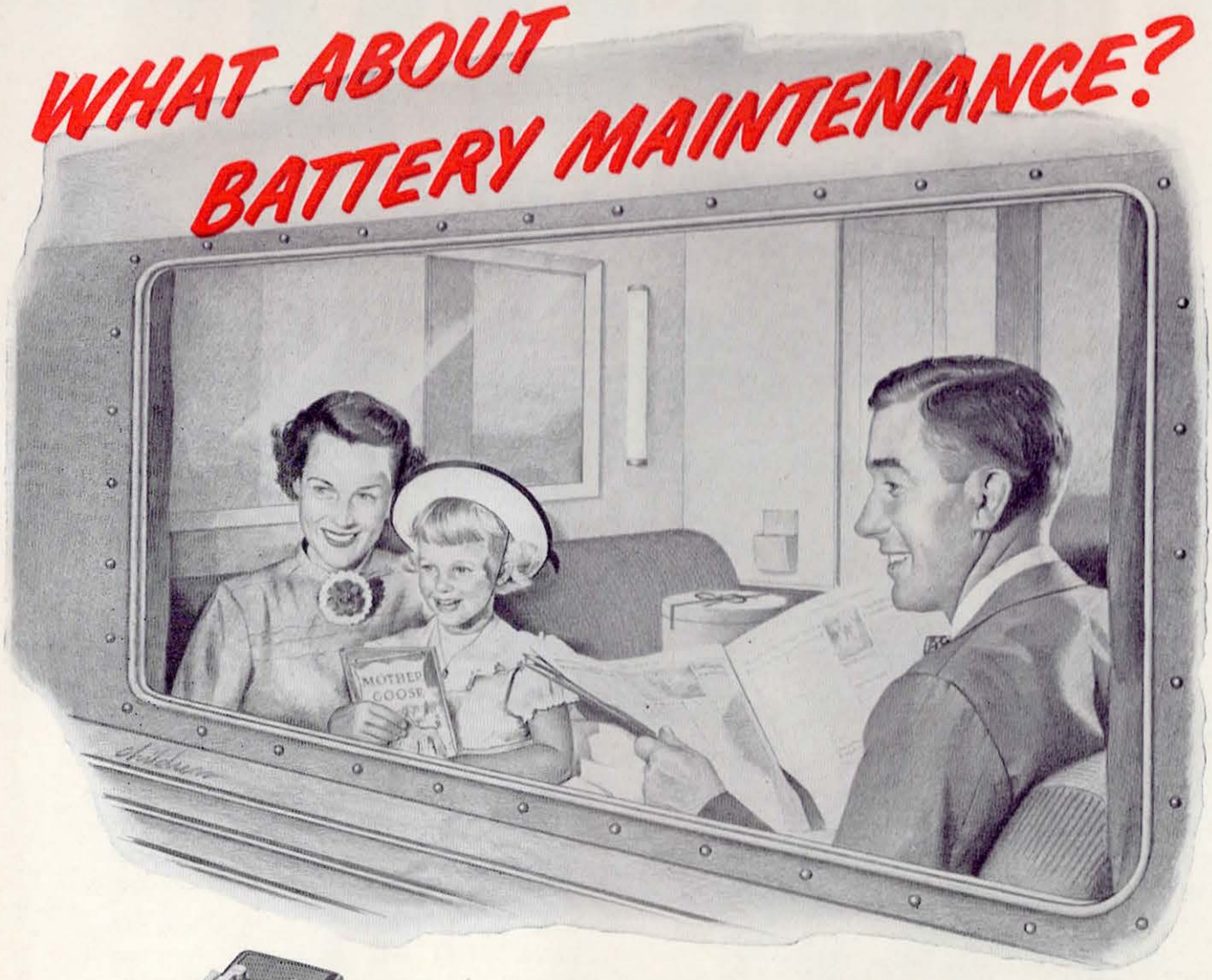
Operating over truck routes totalling 11,147 miles, our subsidiary company, the Missouri Pacific Freight Transport Company, supplements Mo-Pac's reliable rail facilities to the West-Southwest . . . offering shippers the combined advantages of rail and truck service in our coordinated schedules.

MISSOURI PACIFIC LINES

ROUTE OF THE EAGLES

YOU'VE MODERNIZED YOUR TRAINS...

WHAT ABOUT BATTERY MAINTENANCE?



Gould "Z" Plate Batteries
for Air Conditioning
and Car Lighting

Your sleek streamliners require a lot more battery power than the trains of yesterday. If you haven't modernized your battery maintenance routine to keep pace with today's requirements, you're wasting ampere-hours, losing profit dollars. The Gould Plus-Performance Plan for battery maintenance may be able to extend the service of your lead-acid air conditioning and car lighting batteries as much as 50%! With batteries costing what they do, it will pay you to put this plan into operation *today!*

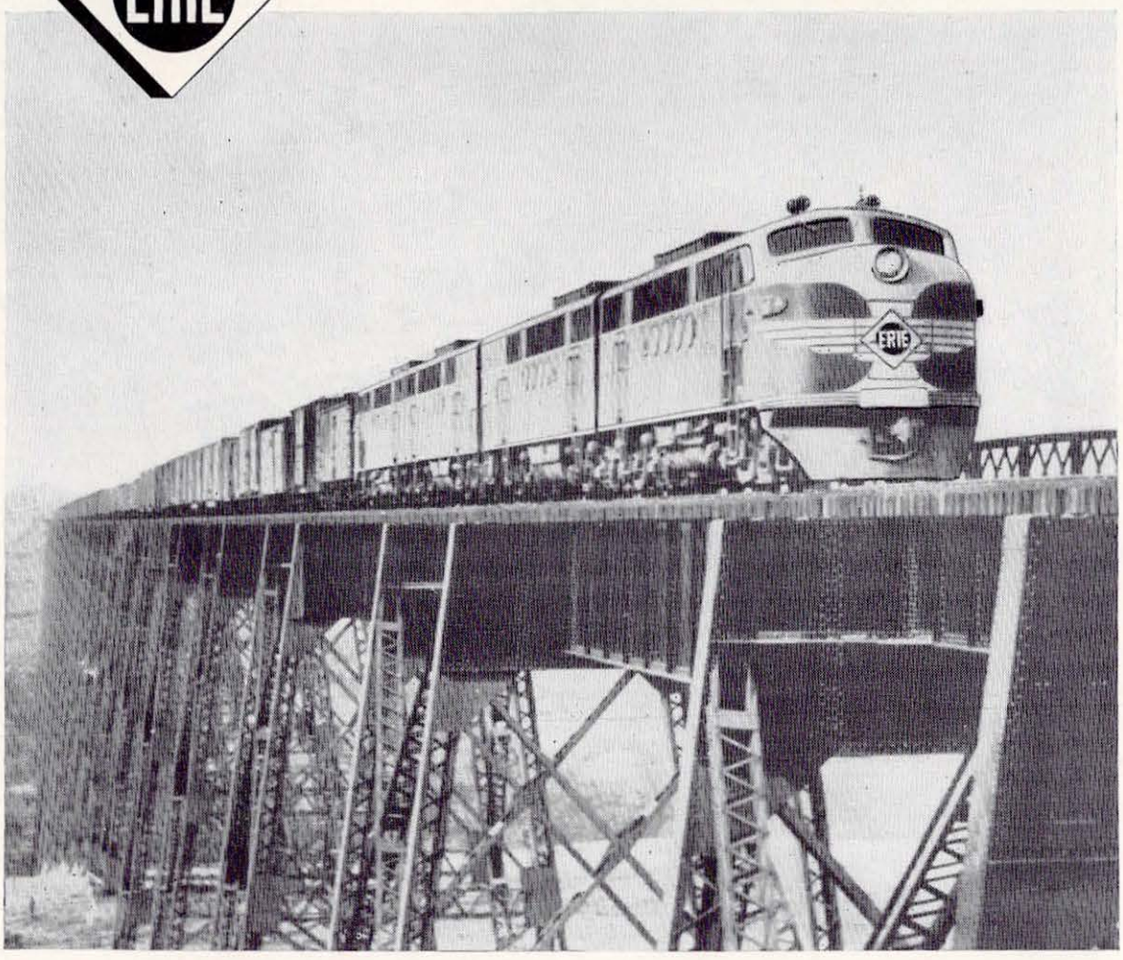
GOULD PLUS-PERFORMANCE PLAN—
A library of technical information that tells you how to select, charge, maintain and determine the condition of lead-acid batteries. It's free. Write Gould Battery Information Headquarters for details.

GOULD *Railroad Batteries*

GOULD-NATIONAL BATTERIES, INC., TRENTON 7, N. J.

Always Use Gould-National Automobile and Truck Batteries

. . . Mark of PROGRESS in Railroading



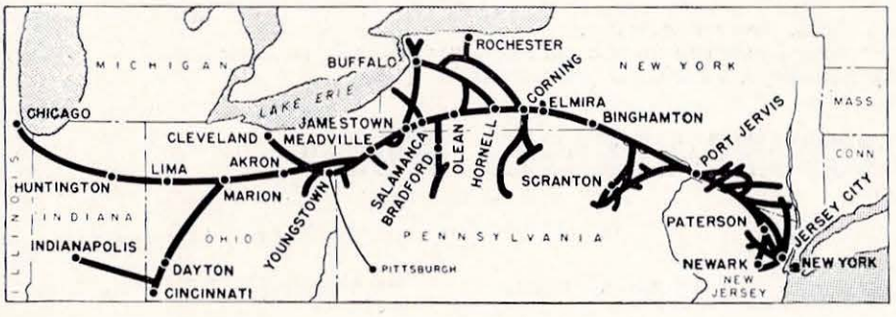
It's twice the train its father was

If you could count the cars in this Erie freight train, you would find that it runs about 135 cars—twice the length of a freight train of 30 years ago. But that's only part of the story of Erie's progress.

Bigger cars and more to a train have increased the total load which means more efficient hauling. Just a generation ago the average train hauled 1906 gross tons, against 3475 gross tons today.

One of the most accurate measurements of railroad efficiency is "Gross Ton Miles Per Train Hour". The Erie has registered a 140% increase since the Twenties in this index of moving *more* tons of freight *faster*. Year after year this good showing has placed the Erie near the top among American railroads in the efficient handling of freight.

Much of the credit for these examples of progressive railroading goes to Erie's big investment in new and more efficient equipment. For the Erie constantly searches for new and improved ways to serve you, industry and our country's defense needs with the best in transportation.



Erie Railroad

Serving the Heart of Industrial America

HOW YOUR RAILROAD CAN SHOW 66.6% RETURN ON INVESTMENT WITH

Pressure-Treated Car Decking

UNTREATED CAR DECKING		TREATED CAR DECKING
$176.25	Lumber & Installation	$176.25
	Cost of Pressure-Treatment	35.25
$176.25	Cost in Place	$211.50
5 yrs.	Expected Service Life	18 yrs.
$ 35.25	Annual Cost per Car	$ 11.75

Annual Cost per Car (Untreated) $35.25
Annual Cost per Car (Treated) 11.75
Annual Saving $23.50 or

66.6% Return on Investment

● These figures are based on reports by railroads which have been using Pressure-Treated car lumber over a period of years. They are dramatic proof of the fact that the cost of pressure-treatment is not an expense, but rather an investment that pays dividends.

As rising labor and lumber costs pyramid the maintenance expense of railroad cars, the vital importance of obtaining 3 and 4 times greater car lumber service through pressure-treatment is increasingly apparent.

To make sure that you know *all* the savings your road can make with pressure-treatment, why not make a careful study? We will gladly give you an analysis and report based on your rolling stock and the lumber purchasing procedures of your railroad. This service is free.

To arrange for such an analysis and report just write, wire or phone Mr. R. H. Bescher, Manager, Technical Department, Orrville, Ohio.

KOPPERS **PRESSURE-TREATED WOOD**

KOPPERS COMPANY, INC. • Pittsburgh 19, Pa.

MULTIPOTENT

to PROTECT AMERICA'S PRODUCTION

Here is Rio Grande Boxcar
• 68299 •
One of the more than 750,000 boxcars that give America the greatest mass transportation in the world

● **DEPENDABLE...** Never idle, he is always moving, yet, always located. Thanks to standardization of equipment, he can travel to any part of the nation.

● **FLEXIBLE...** He can carry thousands of types of freight—munitions to the west...canned goods to the south ...cotton fabrics to the north...sugar and spices to the east.

● **EFFICIENT...** Doors are designed to meet specific requirements of loading, whatever the cargo...specially adapted springs and underframes lessen the sidesway, cushion freight to make movement smooth and safe.

● **CAPABLE...** Built in lengths of 40 feet or longer, with flexible capacity, he is fitted and ready to handle any commodity, be it LCL units or bulk car-load lots.

● **DURABLE...** Rugged construction, standardized parts make him a servant of long life.

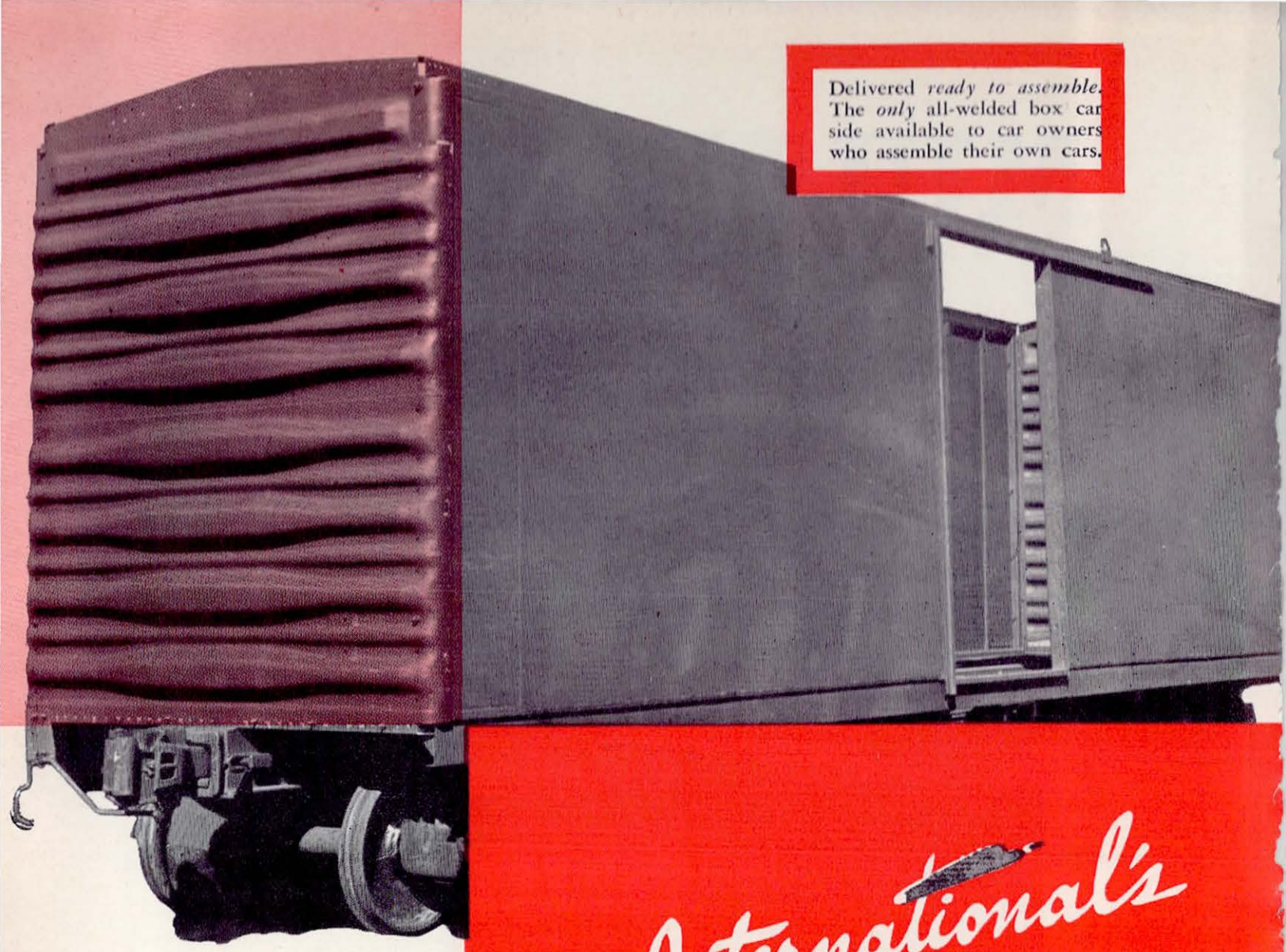
● **ECONOMICAL...** He travels on steel highways paid for and maintained by privately owned and operated railroad enterprise. Tax money he pays on his highway is a major contribution to the growth and progress of the territories he serves.

MAIN LINE Rio Grande THRU THE ROCKIES

CAPITALIZE ON THE VAST POTENTIAL OF THIS GREAT SERVANT

DENVER AND RIO GRANDE WESTERN RAILROAD

F. C. HOGUE, Vice-President, Traffic
Denver & Rio Grande Western Railroad
Rio Grande Bldg., 1531 Stout St., Denver, Colo.

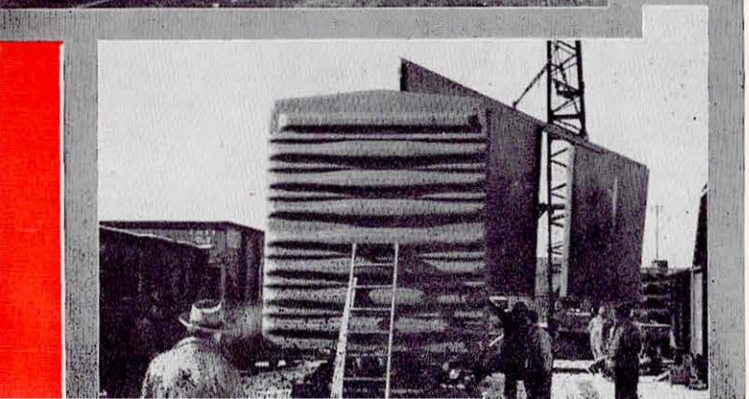


Delivered *ready to assemble.* The *only* all-welded box car side available to car owners who assemble their own cars.

International's ALL WELDED CARSIDES

"There's a new precision in Freight Car Construction"

Advanced design — radical departures in welding technique. Each of the end panels is of 3/16" plate as compared with the conventional .10" sheets. Side posts, door posts and end side panels are notched or offset to provide *maximum welded attachment* to the side plate and side sill upper element.

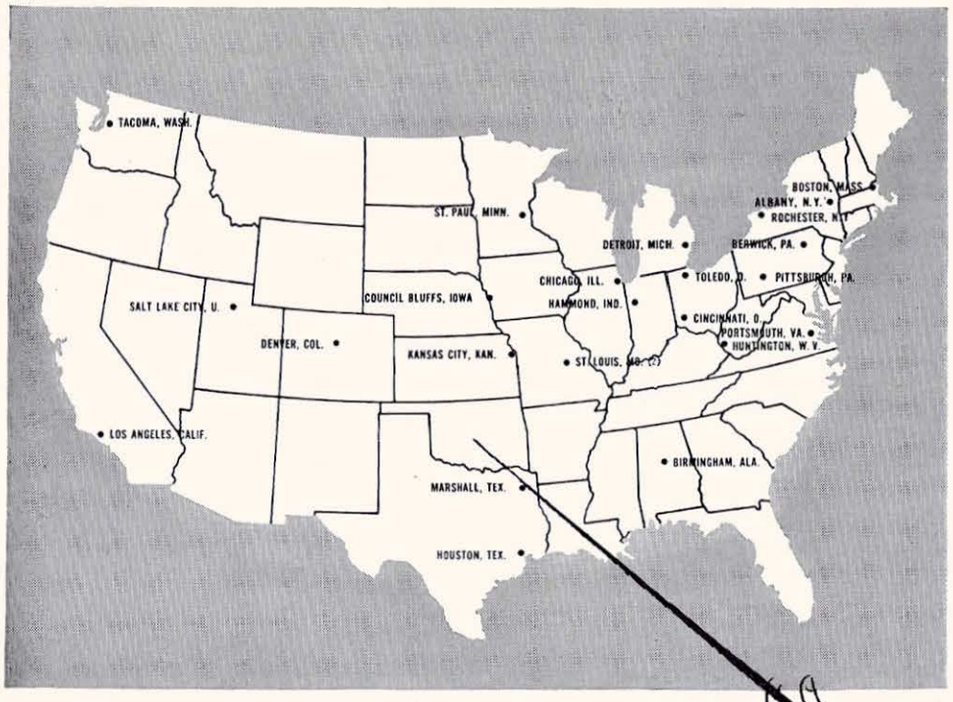


INTERNATIONAL STEEL CO.

RAILWAY DIVISION

Evansville 7, Indiana

Includes the *International* side-sill upper element carrying the side-sheets, providing attachment to the underframe, forming the threshold plate in the doorway, and providing for uniform length of flooring throughout the car — *renewable without disturbing the side lining.*



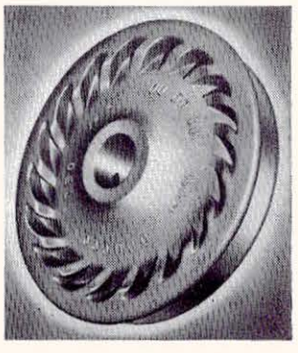
AMCCW chilled car wheels are

available and accessible

You can *get* chilled car wheels, and get them promptly. That's availability.

Not only that, you can get them from the AMCCW plant on or near your line. That's accessibility. You save "foreign line" freight charges.

Added together, availability and accessibility help keep freight cars rolling . . . help railroads keep car wheel inventories down to a practical minimum.



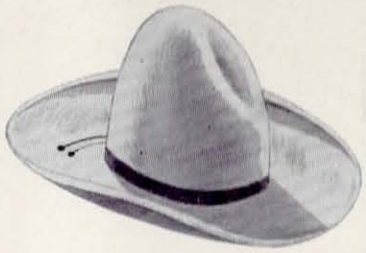
Today's AMCCW wheels have more brackets—giving thicker, heavier, more continuous flange support. And they have a heavier tread on both rim and flange sides.

In good supply
Available locally
Short-haul delivery
Reduced inventory
Low first cost
Low exchange cost
Increased ton mileage
High safety standards
AMCCW plant inspection
Easier shop handling

ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

445 North Sacramento Boulevard, Chicago 12, Ill.

Albany Car Wheel Co. • American Car & Foundry Co.
Griffin Wheel Co. • Marshall Car Wheel & Foundry Co. • Pullman-Standard Car Mfg. Co.
Southern Wheel (American Brake Shoe Co.)



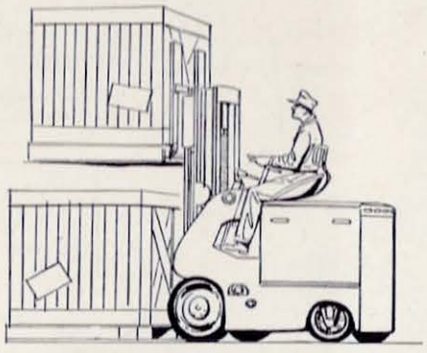
Ship KATY, Southwest

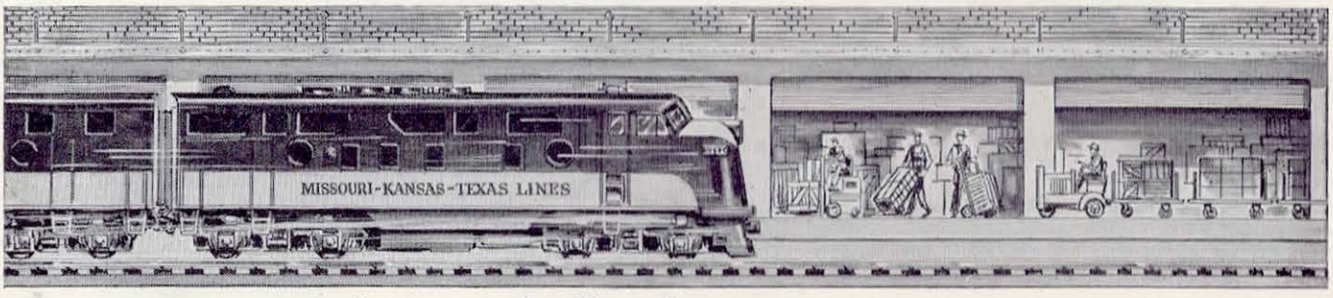
Katy freight service offers you something extra.

It's *more than* powerful diesels (and Katy is practically 100% dieselized).

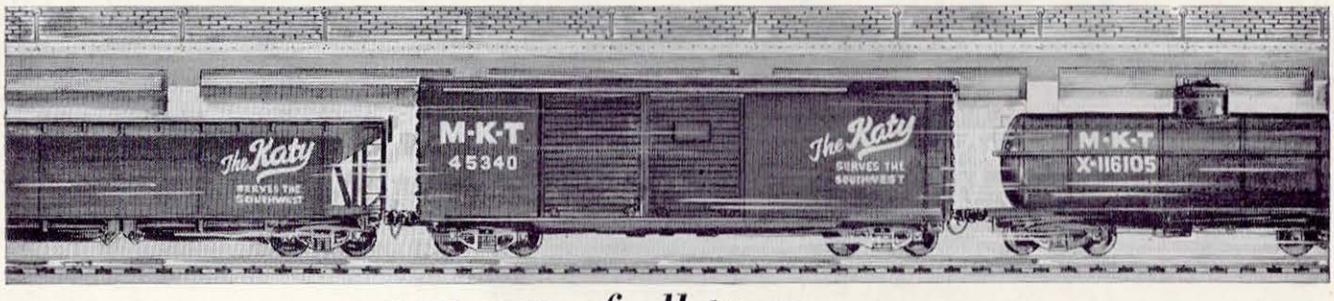
It's *more than* new rolling stock and new rail, and radio control and automatic signals—all of which are being constantly expanded.

It's the *extra* handling care, the dependable, efficient, time-saving service that identifies every operation on line and at terminals along the Katy system. Let our hat, symbol of Southwestern friendliness, remind you to ship *Katy,* Southwest.

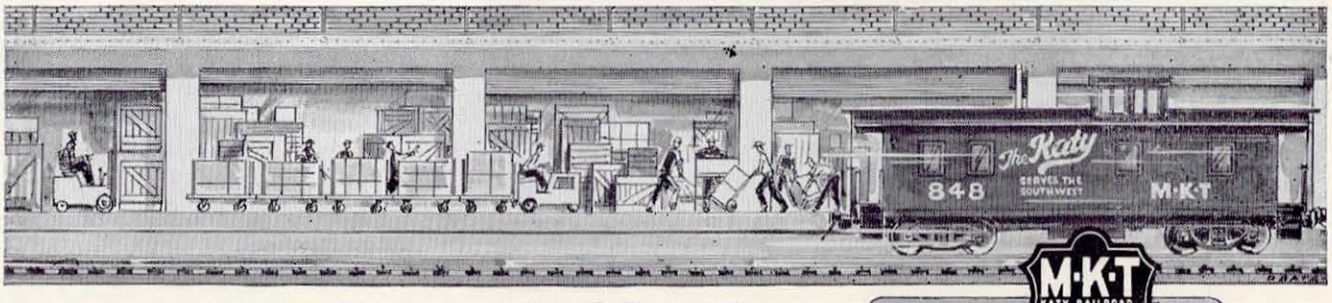




safe, smooth diesel power...



new cars of all types...



modern terminal handling

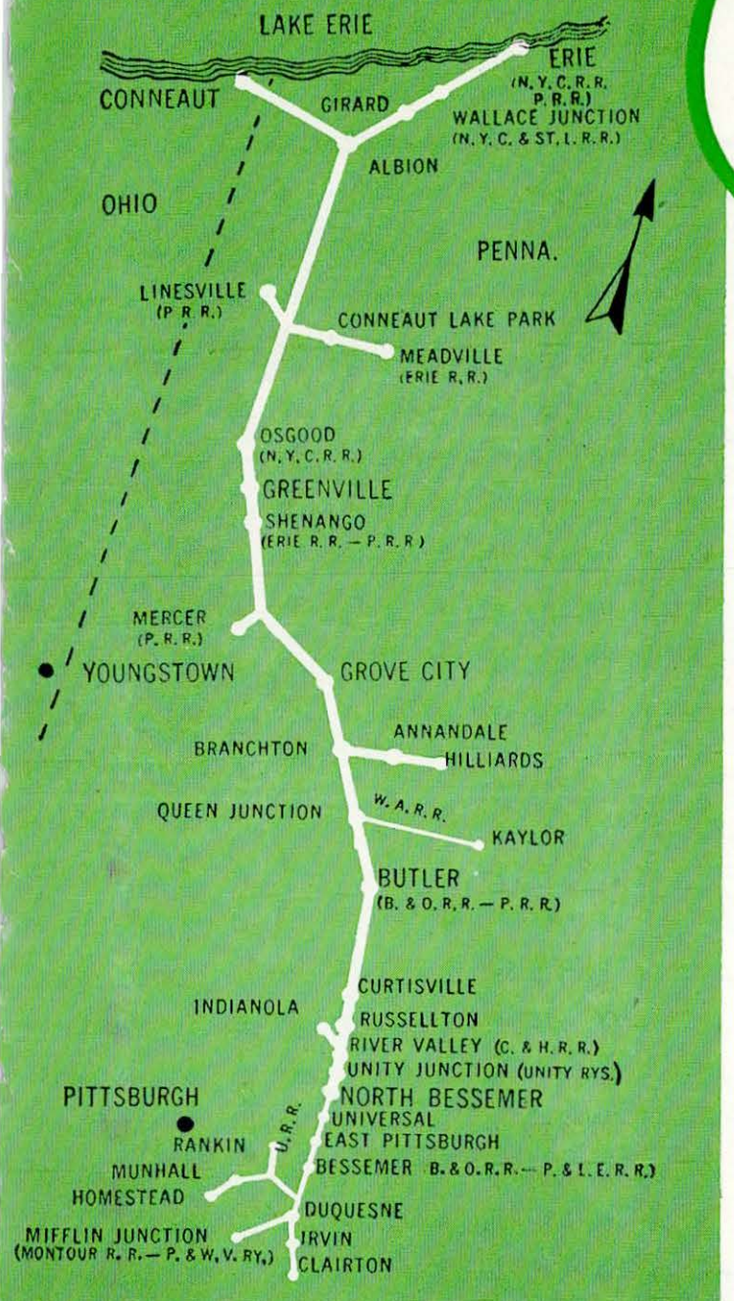
Your local Katy Representative will be glad to help you with your shipping problems—tell you more about Katy's modern freight service and how you'll benefit by shipping and traveling *Katy,* Southwest.

M-K-T
KATY RAILROAD
MISSOURI-KANSAS-TEXAS

THE **KATY** RAILROAD

NATURAL ROUTE SOUTHWEST

12



How to solve a tough tariff problem

SHIP VIA BESSEMER — because all Bessemer and Lake Erie tariffs include *all permanent* rate increases. No lengthy figuring. You save time and trouble, and you're sure of the rates.

And remember—Bessemer equipment, including America's largest fleet of 90-ton hoppers, powered by the most modern locomotives over 155-pound rail, means a dependable car supply, excellent service and your complete satisfaction.

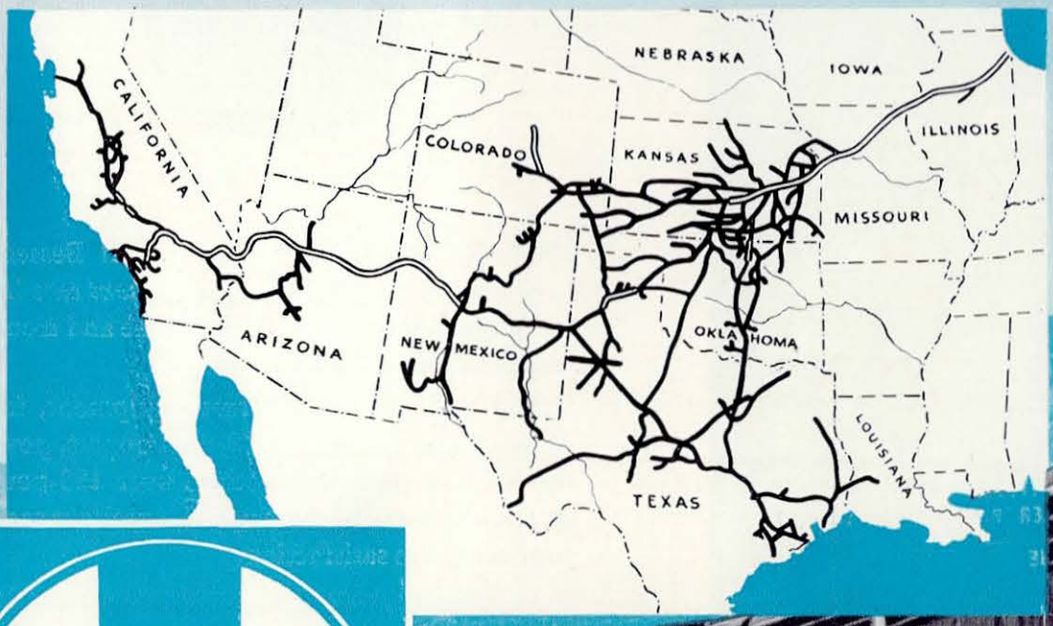
BESSEMER

BESSEMER AND LAKE ERIE RAILROAD COMPANY

PITTSBURGH, PA.

it pays to ship via

Santa Fe All the Way



Santa Fe

Santa Fe All the Way offers many advantages for freight shippers. Here's how it can be of benefit to you.

1 Santa Fe freight service covers all major markets and gateways to markets in the West and Southwest; Chicago to Texas, Chicago to California, and the territory between.

2 Santa Fe serves its entire vast territory under one unified control; one management, one responsibility.

3 Santa Fe has one of the most modern, progressive plants in railroading.

4 Santa Fe has equipped itself to do not only the "usual" job, but unusual jobs as well.

5 Santa Fe folks will almost "turn themselves inside out" to be of service to shippers. They are service-minded. They have the *will* to do a good job.

A Santa Fe traffic office is as near as your telephone.

Your town doesn't have to be on Santa Fe lines at all to make use of Santa Fe service . . . every town in the U. S. A. is served by a man from the Santa Fe.

In the Santa Fe traffic office nearest you, a Santa Fe representative has your community assigned to him. He knows the rates and routings, the time-saving ways and the special services that will expedite your shipment to and from the West.

This man's job is to go "All the Way" for you when you want to ship something — somewhere — that will put it for any part of its journey on Santa Fe rails.

Write him, 'phone him, wire him — any time you want him. He'll come running.

F. H. Rockwell, *General Freight Traffic Mgr.*
Santa Fe System Lines, Chicago 4, Illinois

Santa Fe—*all the way*

C and O's determination to cut distribution time for its shippers is again illustrated in the "two in one" yard at Rockwell Street, Chicago, Illinois. This is a consolidation of the Rockwell Street Yard and the Calumet-Stony Island Yard into one unit handling Chesapeake and Pere Marquette district freight operations. The new yard at Rockwell Street is about six miles closer to the stockyards area and about eight miles closer to Clearing than the Calumet-Stony Island Yard. It will enable Chesapeake District cars to and from western lines to move through Chicago from 12 to 24 hours faster.

The new operation will also enable Chesapeake District overnight deliveries of livestock and perishables from the southern roads to arrive at their destination in Chicago earlier than ever before.

Yes, C & O keeps freight on the roll at Rockwell... and that means cutting your distribution time!

CUTS DISTRIBUTION TIME

C AND O

Chesapeake and Ohio Railway

The NEW CURTIS

Heavy-Duty Two-Circuit Charging and Discharging BATTERY CUBICLE

...is "shopping" a greater number of batteries... with greater accuracy and less handling

Here's why...

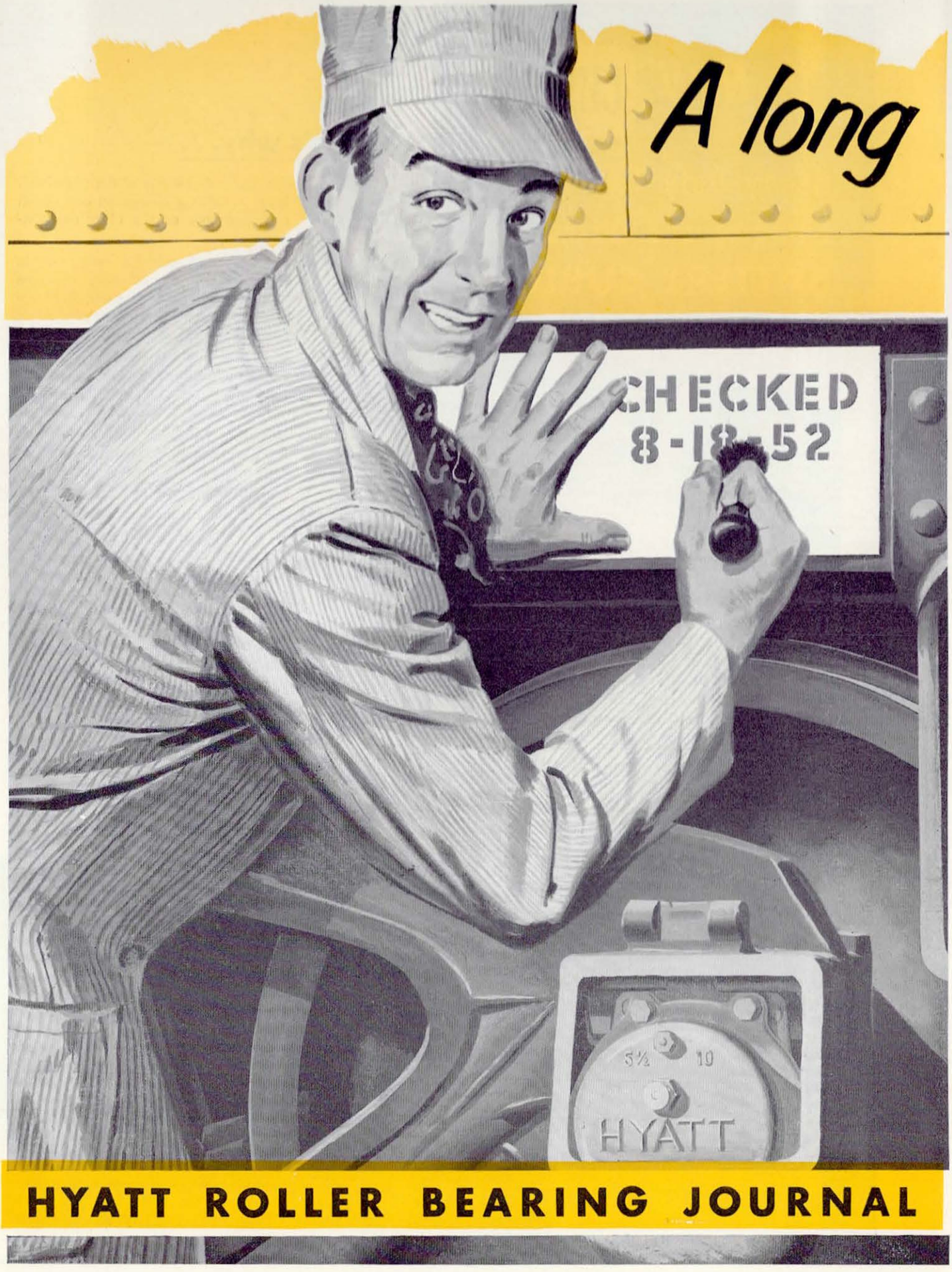
1. The Curtis Cubicle is of the two-circuit type, permitting charge on one circuit and discharge on the other simultaneously.
2. Batteries and cubicles being within arm's length permits more accurate maintenance of charging and discharging rates, providing more dependable results—faster.
3. Charging and discharging is accomplished without moving batteries. Saves handling — out-of-service time — aisle confusion and obstruction.
4. State of charge of batteries can be more accurately determined by use of high rate method, as covered in battery manufacturers' instructions.
5. Two Models are available to handle all sizes of Lead and Edison batteries.
6. The Curtis Cubicle was designed and built as the result of long, cooperative research and experimentation of several nationally known battery experts and Curtis engineers—a product of necessity, built on facts.

The Curtis Cubicle is now employed in all shops of The Pullman Company; the Milwaukee shops of The Chicago, Milwaukee, St. Paul and Pacific Railroad; and Danville shops of The Chicago & Eastern Illinois Railroad.

It is proved—that the Curtis Two-Circuit Battery Cubicle is considerably extending battery life and investment through proper handling—faster and at reduced cost. We invite you to learn all the facts and advantages in connection with your battery shop modernization program.

CURTIS DEVELOPMENT & MFG. CO.

3224 N. 33rd St. Milwaukee 16, Wisconsin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CHECKED
8-18-52
5½
10
HYATT
HYATT ROLLER BEARING JOURNAL

trouble-free life ahead

Other than for the periodic addition of lubricant, the Hyatt Roller Bearing Journal Boxes on this freight car, and the many more like it, will need no further attention until general overall inspection years hence.

Contrast this kind of roller-bearing efficiency with the constant every-day service that must be given friction-type bearings and you will see why the trend is toward "Hyatts for Freight."

Because Hyatt Roller Bearings eliminate costly hot box delays and help cars to ride easier with less damage to lading—faster, more economical freight handling is made possible all along the line.

Let us show you the economies of "Hyatts for Freight" as applied to integral side frame or pedestal-type boxes for change-overs or new equipment. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT OFFERS EXTRA ADVANTAGES

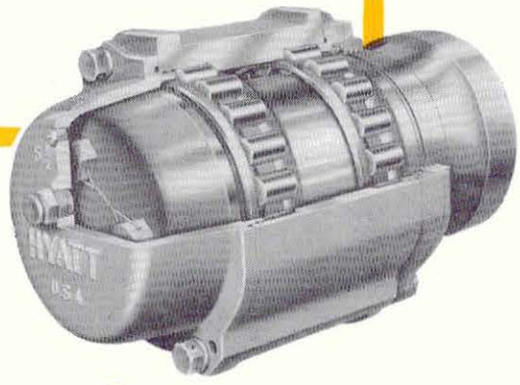
Free Lateral, a unique Hyatt design advantage, allows freedom of axle movement through the bearing, thus cushioning shocks, minimizing wear on wheel and truck parts, and insuring against damage to lading.

No press fits to break when removing boxes for inspection.

Reduced inventory is possible because spare axles and wheels need to be fitted with only inner races and spacer sleeves.

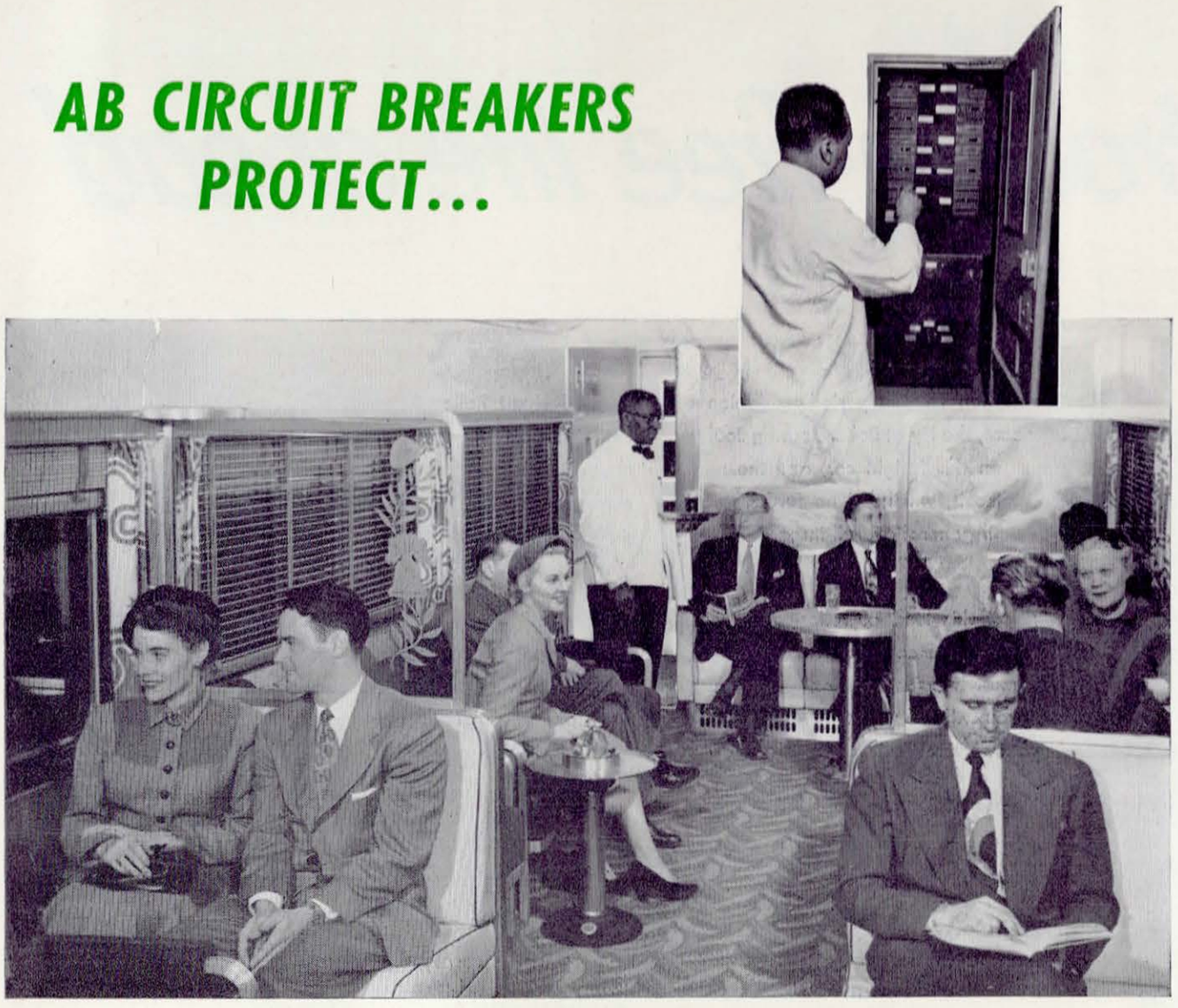
Straight radial rollers of generous size provide for maximum load-carrying capacity and longer usable life.

Simplicity of design permits examination of all box and bearing parts with utmost freedom.



BOXES *for freight cars*

AB CIRCUIT BREAKERS PROTECT...



electrical luxury at its best on these new trains . . .

the morning Congressional, the Senator, and the afternoon Congressional

All-out electrical luxury on these three new Pennsylvania Railroad trains—built by the Budd Company—has skyrocketed electrical demands. Improved, individually controlled air conditioning, dining car electric ranges, telephone booths, a public address system and outstanding lighting are just a few of the many new electrical features that have been added. All together they make these trains the safest, most gracious ever.

Westinghouse AB Breakers are used throughout the 64 cars to protect and control electrical equipment and circuits.

AB Breakers handle short circuits and dangerous overloads lightning fast; do not trip on harmless, momentary overloads. Service is restored in seconds with a flip of the AB Breaker handle after a fault is cleared. There's nothing to replace. Shockproof and tamperproof, AB Breakers work unfailingly, calibration stays exact.

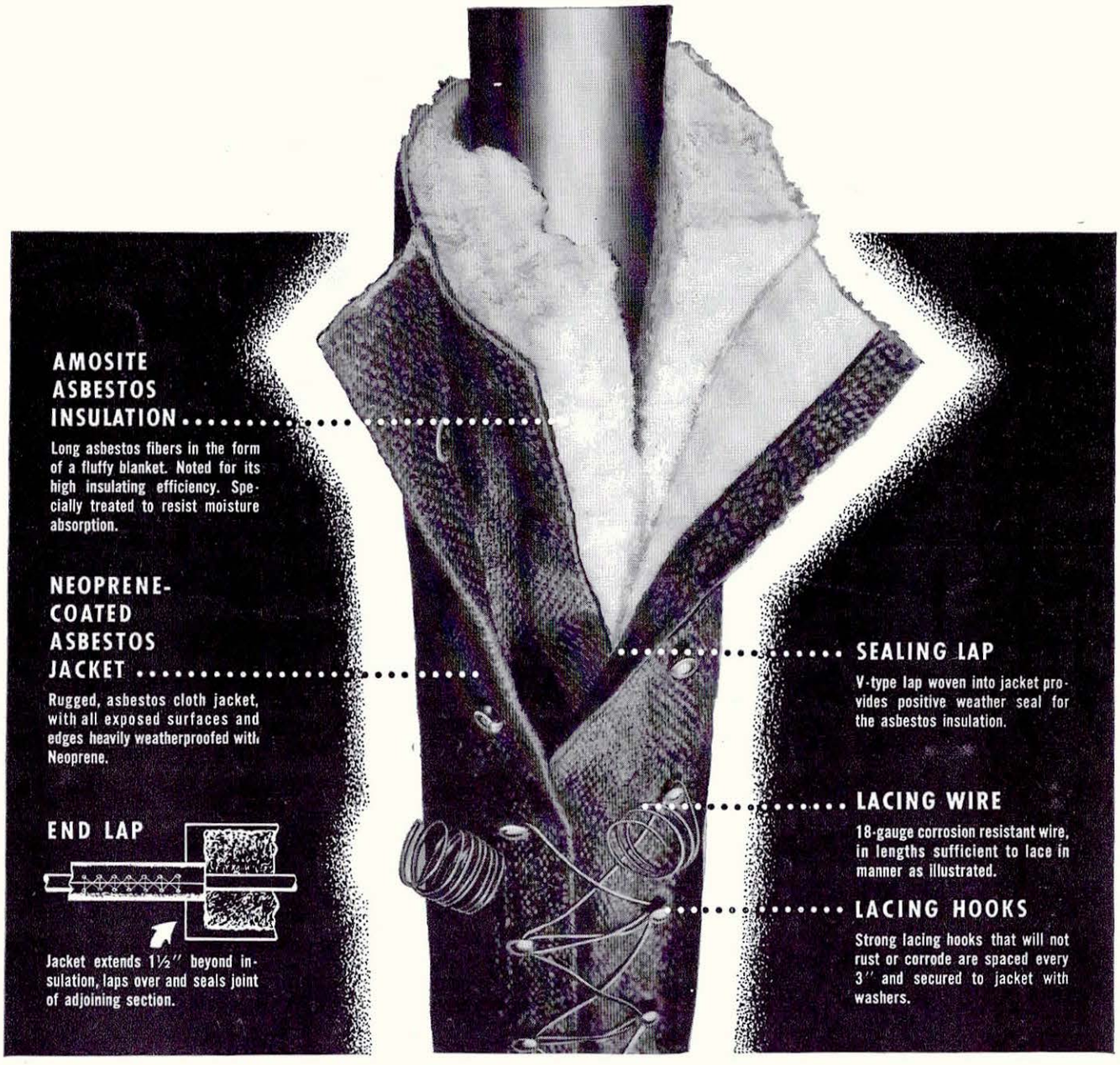
Call your Westinghouse Representative for planning details or write for B-5407, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-30102

DESIGN TESTED AND VERIFIED IN THE Westinghouse HIGH POWER LABORATORY

YOU CAN BE SURE...IF IT'S Westinghouse

AB CIRCUIT BREAKERS

THE COMPLETE LINE


AMOSITE ASBESTOS INSULATION
Long asbestos fibers in the form of a fluffy blanket. Noted for its high insulating efficiency. Specially treated to resist moisture absorption.
NEOPRENE-COATED ASBESTOS JACKET
Rugged, asbestos cloth jacket, with all exposed surfaces and edges heavily weatherproofed with Neoprene.
END LAP
Jacket extends 1½" beyond insulation, laps over and seals joint of adjoining section.
SEALING LAP
V-type lap woven into jacket provides positive weather seal for the asbestos insulation.
LACING WIRE
18-gauge corrosion resistant wire, in lengths sufficient to lace in manner as illustrated.
LACING HOOKS
Strong lacing hooks that will not rust or corrode are spaced every 3" and secured to jacket with washers.

See for yourself why WOVENSTONE® makes heating lines efficient

Ask us to send you new Wovenstone Folder. It gives you facts, figures.

Plenty of heat—*to the last car!* That's what you get when the insulation is Unarco Lace-On Wovenstone. It's built to do this one job well—save users time and money. Easy to use. May be removed and reapplied time and again without damage or loss of efficiency. Fittings, too—elbows, tees, crossovers—all have the same outstanding features for economical passenger comfort.

UNARCO

UNION ASBESTOS & RUBBER COMPANY

332 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS

"I cannot make the cables before I get the wire"

Sounds like an old refrain, doesn't it? It is at least as old as 1880, when A. G. DeWolfe wrote from Seymour, Connecticut (where Kerite Cable still is manufactured) to Austin G. Day in New York:

March 5, 1880

I have just got home from Ansonia. They have not made the wire yet. They are much behind their orders. Our order has been in 12 days and they have 8 tons of copper and 12 tons of brass before our order not filled. They promised to send some of the wire first of the week. They would not promise how much. It looks as though I could not get the 10 miles of cable by the 20th. Will do all I can but cannot make the cables before I get the wire.

There isn't any modern moral to this story, except perhaps that, however impatient we Americans become, we always seem to outlast our crises and do a bigger and better job no matter what obstacles are put in our way.

KERITE CABLE

THE KERITE COMPANY—30 Church St., New York 7, N. Y.
Offices also at 122 S. Michigan Ave., Chicago; 582 Market St., San Francisco; 3901 San Fernando Rd., Glendale 4, Calif.

THE VALUE AND SERVICE LIFE OF A PRODUCT CAN BE NO GREATER THAN THE INTEGRITY AND CRAFTSMANSHIP OF ITS MAKER.

CLIMATE . . .
CULTIVATION . . .
Coast Line . . .

NOT synonymous words but words with important meaning to the Southeast's live stock industry.

Climate for sturdy growth . . . Cultivation for better herds and pastures . . . COAST LINE for expeditious transportation and for the experienced help of its Agricultural and Live Stock Development Department workers.

ATLANTIC
COAST LINE
RAILROAD

WESTINGHOUSE RAILROAD RADIO

PROVED IN NIGHTMARE TEST

APPROVED **INLAND LIME & STONE COMPANY**

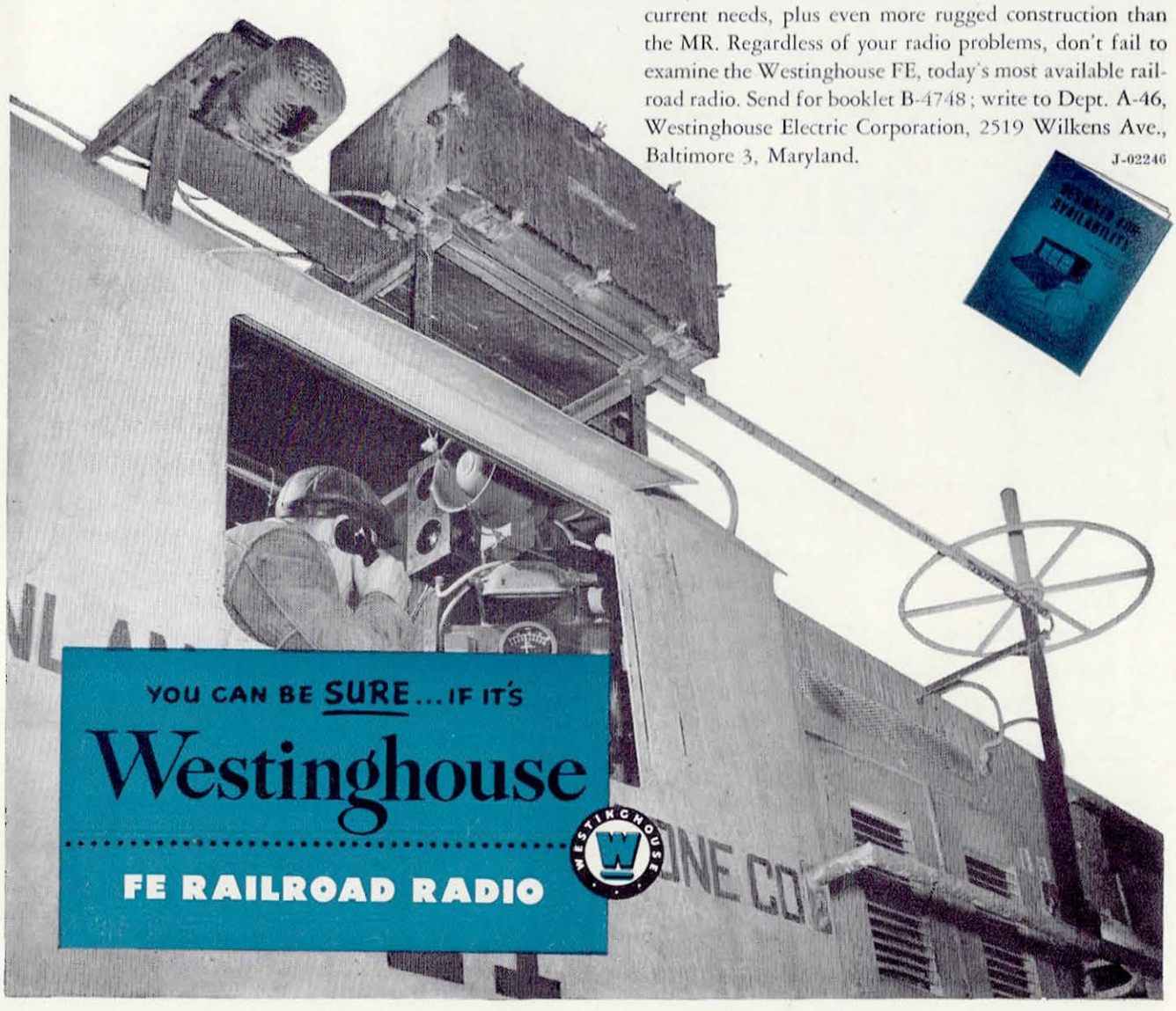
Inland Lime and Stone Company operates seven trains and eleven locomotives on 21 miles of main line and siding track in a quarry and dockside area. Conditions are severe, ranging from earth-shaking blasting to loading a fifty-ton car in less than five minutes.

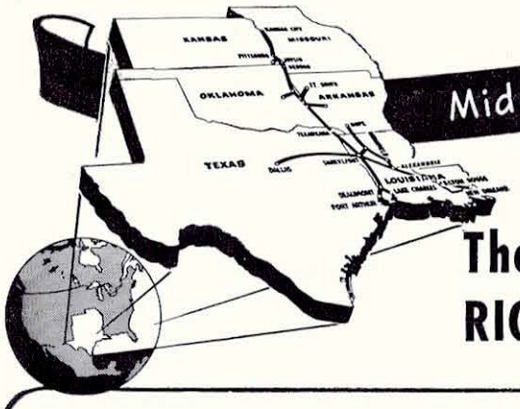
AND — the electric locomotive cabs occupy one end of a gondola! That means that five-yard (approximately 7½ tons) bites of limestone are dropped into the gondola end, smack beside the cab *and the railroad radio*.

These rough conditions tell plenty about what a railroad radio can stand. In selecting railroad radio, Inland came to Westinghouse. (Since they required single frequency operation, they selected the Westinghouse MR radio, the FE predecessor).

For your railroad, the new Westinghouse FE meets all current needs, plus even more rugged construction than the MR. Regardless of your radio problems, don't fail to examine the Westinghouse FE, today's most available railroad radio. Send for booklet B-4748; write to Dept. A-46, Westinghouse Electric Corporation, 2519 Wilkens Ave., Baltimore 3, Maryland.

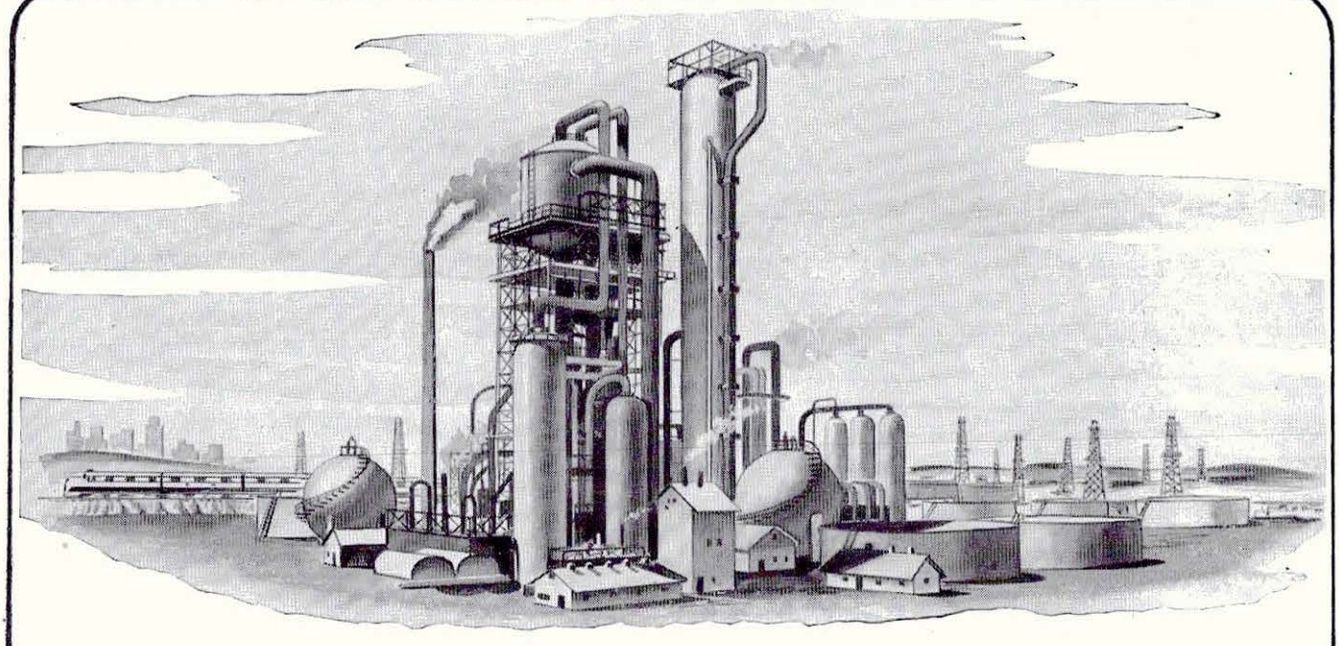
J-02246





Mid-America Stands Out in Oil Production

There's No Field Like An Oil Field— RIGHT IN THE CENTER OF THINGS



Along Kansas City Southern Lines oil derricks and great refineries stand tall against the sky — monumental symbols of progress made here by industry . . . marking the places where oilmen produced and refined more than two-thirds of the nation's petroleum in 1951!

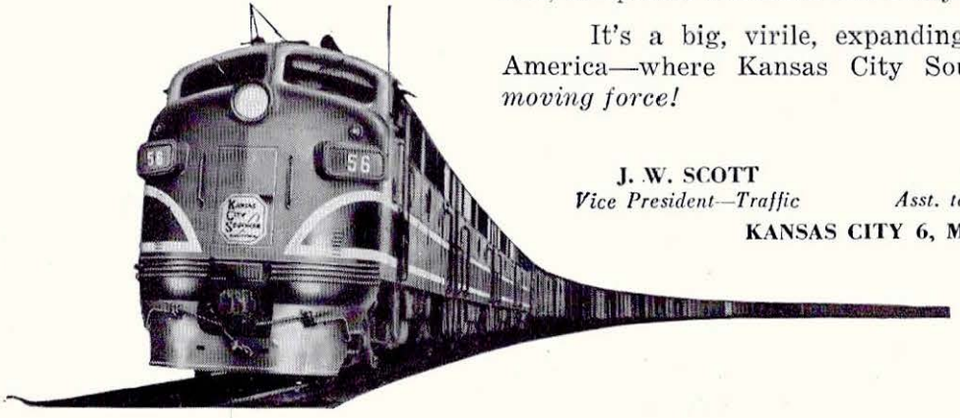
This is the six-state area which provided nearly three-fourths of our country's natural gas last year—the throbbing heartland of America!

And, besides oil and gas, rich stores of lead, zinc, coal, sulphur, salt, lumber and iron—to name only a few of the other natural resources—are here in abundance for economical manufacture. Plenty of power, too—water, fuel, competent workmen and everything industry needs.

It's a big, virile, expanding market—this Mid-America—where Kansas City Southern Lines are a *moving force!*

KANSAS CITY SOUTHERN *Lines*

PRODUCTION LINES OF MID-AMERICA!



J. W. SCOTT
Vice President—Traffic

A. N. REECE
Asst. to President—Development

KANSAS CITY 6, MO.

Make '52 better for you
by routing your shipments
via Illinois Terminal.

Our 456 miles of diesel and electric-powered railroad making connections with all railroads to and from all points, provides direct haul fast freight service to, from and through Central and Eastern Illinois and the industrial zones of St. Louis and the east side of the Mississippi River.

We serve directly—and exclusively—more than 250 industries along our own rails, and more than 3,500 others through reciprocal switching arrangements.

If your shipping business includes our territory, investigate *Illinois Terminal* service. Representatives in 21 key cities. *We Can Help You.*

Vice President—Traffic

ILLINOIS TERMINAL RAILROAD COMPANY
710 North Twelfth Boulevard
St. Louis 1, Missouri

RAILROAD ILLINOIS TERMINAL COMPANY

Illinois Terminal

SPIKE PULLER . . . By getting spikes out faster this machine speeds up relaying and reduces the cost of the entire operation.

TRACK WRENCH . . . Provides uniformly controlled tightening on track bolts to prolong rail life and make better riding track.

ADZING MACHINE . . . Provides tie seats in keeping with today's track maintenance standards. All level and in same plane.

RAIL DRILL . . . A compact, lightweight, low-cost easily set drill that proves a money saver.

RAIL GRINDERS . . . With four types of grinders, Nordberg can supply the machine best suited to any type of maintenance grinding.

SPIKE HAMMER . . . All spikes driven straight and at big savings in time and money.

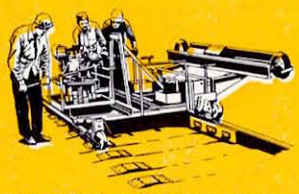
Use these NORDBERG "Mechanical Muscles"* to do a better, faster maintenance job at lower cost!

LOOKING AHEAD . . . Each year, for the last 6 years, Nordberg has introduced at least one new machine specifically for track work. *What will the next Nordberg machine be?*

TRACK SHIFTER . . . Especially suited to heavy lining and high lifts. For new construction, flood repair and grade or line change work.

POWER JACK . . . Maintains alignment while speeding up ballasting and general surfacing operations.

BALLASTEX® . . . Excavates the ballast in area between tracks or in shoulder. Disposes of it by wasting or by feeding to SCREENEX for cleaning.



DUN-RITE GAGING MACHINE . . . Nordberg's newest development — for extremely accurate gaging by correctly positioning the tie plates.

CRIBEX® . . . Removes material contained in the cribs and deposits it beyond the ends of the ties.

GANDY® . . . A triple-purpose machine for pulling ties—inserting ties—and as a material handling crane.

SCREENEX® . . . Takes excavated fouled ballast fed by BALLASTEX, cleans material and returns it to track, intertrack, or shoulder.

DSL YARD CLEANER . . . Cleans more track faster, better, more economically . . . without damaging ties.

For full details on any or all of these Nordberg "Mechanical Muscles"*, write for Bulletins.

*Copyright 1952 Nordberg Mfg. Co.

R1052

NORDBERG MFG. CO.

MILWAUKEE, WISCONSIN

NORDBERG MACHINERY

Only a few came back...

The first transcontinental railroad to link the North Pacific Coast with the Midwest was completed by the Northern Pacific in 1883. Within the next seven years five territories—Washington, Idaho, Montana, the Dakotas—gained population enough to join the Union.

Even before the line was finished, they crowded aboard our Northern Pacific trains—adventurers, prospectors, immigrants, homesteaders. By the hundreds they followed our trail of rail into the great Northwest.

Only a few of those early-day NP passengers ever came back. For in the Northwest they found a promised land of fertile prairies and virgin forests, of cloud-ringed mountains and roaring streams. They came to look—and they stayed to live.

Now—over half a century later—there's a second surge of growth in the Northwest. Since 1940 two states have increased their population 38% . . . over 600 new industries have settled in the towns and cities along our Main Street of the Northwest . and another new territory is about to blossom.

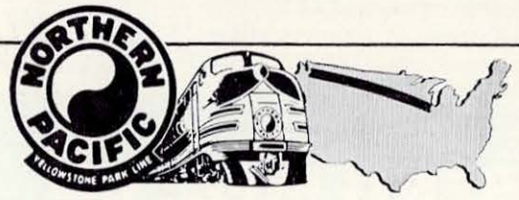
Last May, water from Grand Coulee Dam in Eastern Washington began to flow in to the 1,029,000 acres of the Columbia Basin—the first step in a giant irrigation project creating a new agricultural "state" larger than Rhode Island!

Again, we're bringing a good share of the new settlers west—this time on our streamlined North Coast Limited And to serve their needs in this fast-developing area, we've practically rebuilt our railroad—to the tune of $183 million in the last decade.

We've laid new rail equal to *another* trans-continental line from St. Paul to Seattle to Portland We've built and bought nearly 16,000 spanking-new freight and passenger cars, added some 269 hefty new diesel units—and many more improvements are still on the way.

Perhaps you, too, may soon be heading for the Northwest to visit or to live. Perhaps the things you buy or sell already move to and from this great, growing region. In any case, you can depend on this: if you're shipping, traveling or settling along the Main Street of the Northwest, you'll find Northern Pacific's modern facilities made to order for you.

NORTHERN PACIFIC RAILWAY
Route of the streamlined North Coast Limited
St. Paul 1, Minnesota



THINGS ARE MOVING ON

Main Street of the Northwest

CUT THE COST OF PAPERWORK

and speed up work—by making

DIRECT COPIES WITH OZALID!

The amazing Desk-Top OZAMATIC makes low-cost, high-quality direct copies of OS&D Claims Reports, Statements of Differences and Accounting Reports!

NO RETYPING! NO PROOFREADING! NO COSTLY "HUMAN ERRORS"!

THE entirely self-contained OZAMATIC brings you a low-cost, high-speed method of making clear copies of anything typed, written, printed or drawn on ordinary translucent paper! No darkroom, no stencils, no messy inks are required!

Any clerk in your office can learn to operate the OZAMATIC in five minutes. You get your first copy in seconds—clean and dry—or up to 1,000 letter-size copies per hour, at 1½¢ each!

The OZAMATIC makes low-cost high-quality copies up to 16 inches wide and any desired length. Opaque originals require a simple intermediate step. Larger OZALID machines make wider copies, and have greater capacity.

Write today for full details, or call the Ozalid distributor listed under Duplicating Machines in the classified section of your phone book.

Here's How A Major Road Cuts Duplicating Costs 75%

Nine to 83% Savings Reported! "Recently we made a cost analysis on Ozalid," writes one official. "A study of eleven representative jobs showed that the cost on Ozalid ranged from 9 to 83% of the cost by former methods. New applications are being found daily. Work formerly sent outside the company for duplication is now diverted to this process."

How Reports and Statements are Handled. This road makes important savings by using Ozalid to reproduce recurring and cumulative statements. Forms are drawn and headings typed on translucent paper. Current entries are added at weekly or monthly intervals, and the required copies reproduced after each posting. Thus periodical retyping and verification of the entire report is eliminated. The report of revenue passenger-miles, and many others, are handled in this manner.

Substantial Savings on S/D's. Officials of this railroad estimate impressive dollar savings with Ozalid in handling Statements of Differences. Tedious retyping and proving of 80% of the material is eliminated for clerks when OZALID copies of S/D's are sent out in lieu of Unit Correction Accounts.

CUT COPYING COSTS . . . USE OZALID®

OZALID, Dept. RA-2
General Aniline & Film Corp.
Johnson City, N. Y.

Gentlemen: Please send me full information about your OZAMATIC machine.

Name.....

Company.....

Position.....

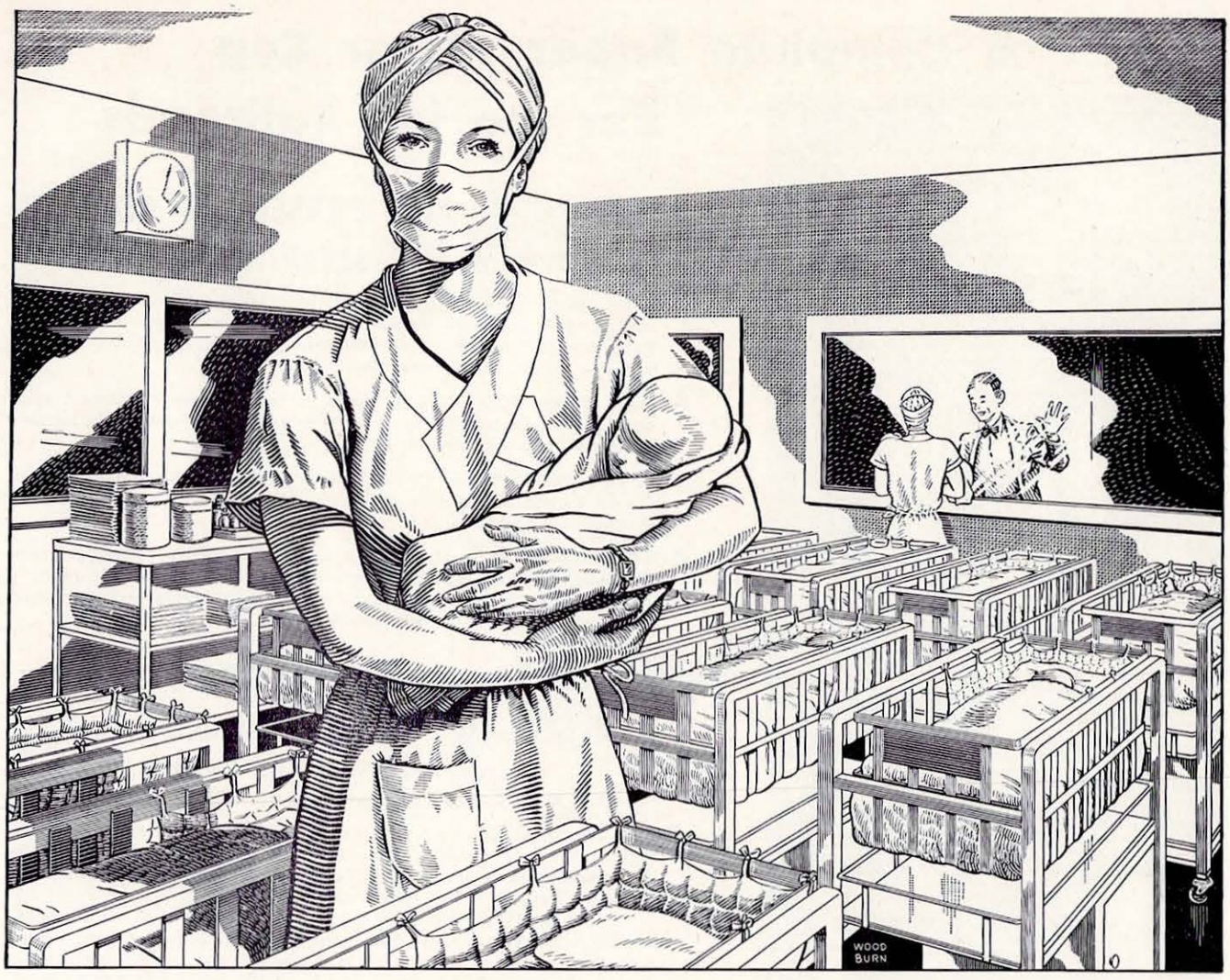
City.....

Johnson City, N. Y. A Division of General Aniline & Film Corporation
"From Research to Reality"
Ozalid in Canada — Hughes Owens Co., Ltd., Montreal

HOW MANY WORDS TO MOVE A TON OF FREIGHT?

Switch lists, block reports, manifest reports, set-out and pick-up reports, passing reports, diversion orders and reports—add up to a hatful of words in moving each ton of freight. Teletype handles them all—smoothly, rapidly—and provides an accurate, permanent record as well.

TELETYPE
REG. U. S. PAT. OFF.
CORPORATION
SUBSIDIARY OF
Western Electric Company
INCORPORATED



A Program for 30 million new Americans

LISTEN to the voices of 30 million new Americans. They are answering the pessimists who say we are threatened with depression because we can't keep our farms and factories busy.

Let these pessimists read the future in the census returns. There is a tremendous upsurge in our population. Last year nearly 4 million babies were born. By 1960 we shall total 170 million people--30 million more than when war ended in 1945. This adds to our domestic market more people than there are in Canada and Australia combined.

Providing for these 30 million new Americans can keep our production machinery going at capacity. They call for new hospitals, schools and churches. Larger families need bigger houses to replace postwar houses that are too small now. More and bigger families need improved home equipment and more new automobiles. In short, to maintain and improve living standards for our children, we must work harder than ever before. To supply the needs of our 1960 population, including adequate national defense, it is estimated that the productivity of the individual worker must increase at least 30%, with additional investment of over 200 billion dollars in capital facilities.

There should be no room in this picture for depression. But we must have economy in government, elimination of waste and extravagance and a reduction of taxes and public debt. If we encourage private incentive, thrift and investment, we can bring about the greatest advance in health, wealth and happiness that America has ever known.

QUALITY V YOUNGSTOWN SERVICE

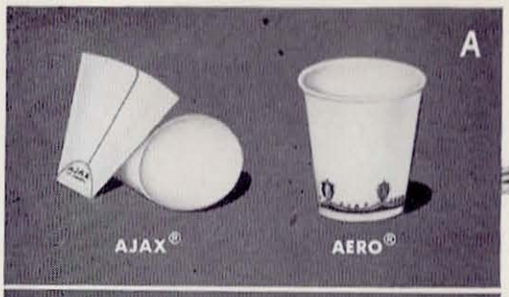
The Youngstown Sheet and Tube Company

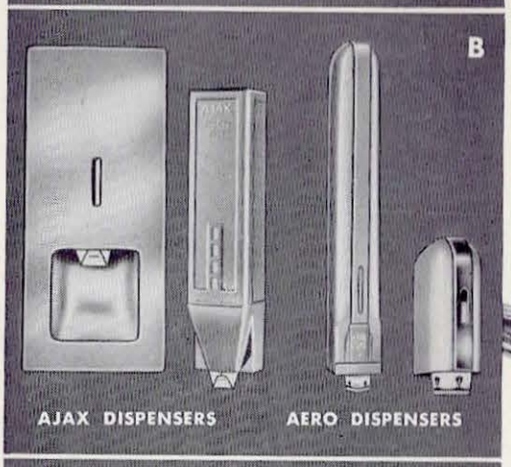
General Offices--Youngstown 1, Ohio
Export Offices--500 Fifth Avenue, New York

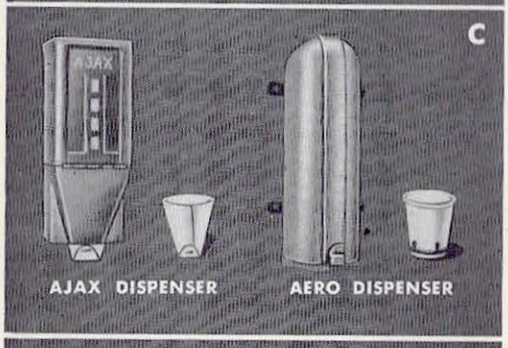
MANUFACTURERS OF CARBON ALLOY AND YOLOY STEELS

RAILROAD TRACK SPIKES - CONDUIT - HOT AND COLD FINISHED CARBON AND ALLOY BARS - PIPE AND TUBULAR PRODUCTS - WIRE - ELECTROLYTIC TIN PLATE - COKE TIN PLATE - RODS - SHEETS - PLATES.

A Complete Paper Water Cup Service for Railroads







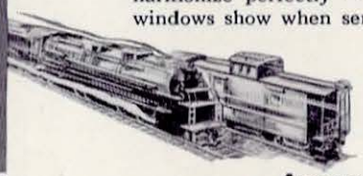
FOR PASSENGER COACHES and SLEEPING CARS

Meet passengers' demands for comfort and strict sanitation with harmonizing, easily accessible dispensers, crisp and clean Ajax or Aero paper cups. And as they drink, *greet them with your message imprinted on the cup* — a service they'll remember.

A **AJAX PAPER CUPS** — Fit the hand perfectly. Have convenient open mouth. Can be held safely and easily even while train is in motion. Wedge shaped with reinforced bottom fold.

AERO PAPER CUPS — Match the luxurious appointments of your De Luxe trains. Round, sturdy cups with rolled drinking edge and flat bottom. Attractively decorated.

B **STEEL DISPENSERS** — Designed especially for modern passenger cars. Recessed and wall type dispensers. Can be firmly secured in place — harmonize perfectly — hinged panels for easy filling — unbreakable windows show when servicing is necessary.



FOR LOCOMOTIVES and CABOOSES

Approved WATER CUP SERVICE
AJAX or AERO Cups with Neat, Steel Dispensers

C In some states railroads are required by law to supply drinking water and dispensers to operating employees. To comply with the law or simply to promote good employee relations, many roads use AJAX and AERO Cups and Dispensers in locomotives and cabooses.

Your employees will enjoy the clean, crisp cups — so easy to hold, so easy to drink from. The dust-proof dispensers of heavy steel can be bolted or welded securely in place. Cups will not fall out yet can be drawn out singly. AJAX Dispensers hold 125 cups — AERO 50 cups.

FOR MAINTENANCE and CONSTRUCTION CREWS

AJAX PORTABLE
Drinking Water Service

D Deliver fresh, cool water to the workers right on the job with the Ajax Mobile Drinking Water Tank. Your work crews will appreciate its sanitary features and you will gain through improved health of employees, less absenteeism, better morale, less lost time on the job.

Here is a tank that's built to last. Made of rugged, aluminum-finished galvanized iron, firmly riveted and braced. Strong carrying straps. Sturdy, guard-protected faucet on bottom. Leak-proof, dust-proof. Easy to keep clean and sterile. Furnished complete with an Ajax Dispenser and Ajax paper cups.

YOUR MESSAGE WILL BE READ OFTEN

E Imprinted on the front of the drinking cups, your friendly greeting will catch the passengers' eyes — and be remembered as a token of friendship and good will. Or use the cups to sell your *safety* messages to the public — to your employees. Several times every day they'll stop for a drink of water. No other method offers such a sure way of getting your messages read — and *read again and again.*

Your message will be imprinted by us on the cups you order for a very nominal charge. Ask for prices and samples.

UNITED STATES ENVELOPE COMPANY
GENERAL OFFICES • SPRINGFIELD 2, MASS.
14 Divisions from Coast to Coast

Helping the steel industry "dig out"

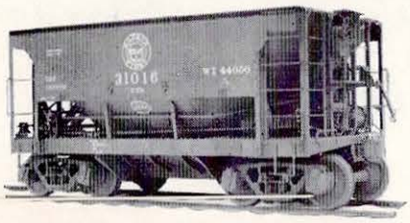
The basic job of the D. M. & I. R.—getting iron ore on its way to the blast furnaces—is more vital than ever this year as the steel industry endeavors to restore its strike-crippled volume. An estimated two million tons is in the process of being turned over to other railroads for all-rail movement, which it is expected will continue after the Lakes shipping season closes down, for the biggest all-rail ore haul in America's railroad history.

The Road of the Rolling Ore

DULUTH, MISSABE & IRON RANGE RAILWAY

DULUTH 2, MINNESOTA

Co-operating railroads are putting every ore hopper car to use in this year's emergency. The D. M. & I. R. has recently added to its own fleet 1500 new 70-ton ore haulers.



Day and Night during the shipping season a continuous succession of ore trains moves from the open-pit and deep-shaft mines of the Mesabi and Vermillion ranges down to the Lake Superior docks at Duluth and Two Harbors, drawn by the mighty D. M. & I. R. Mallet-type locomotives, each with 140,000 lb. tractive effort.

Season after Season, for the past 28 years, the D. M. & I. R. emphasis on safety as a major goal in all its operations has yielded an unbroken series of annual awards for the lowest employee accident rate among Class I railroads of the United States.

The World's Largest Carrier of Iron Ore

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CONCORD, N. H.
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Passenger Station. (Concord 76.)

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2086 Ry. Exchange Bldg.
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SAN FRANCISCO 5, CAL.
R. M. Young,
298 Monadnock Bldg.
(Garfield 1-4215.)

SPRINGFIELD 3, MASS.
P. W. Waters,
1694 Main St.
(Tel. 6-3607 and 6-3608.)

TROY, N. Y.
E. T. Carney,
Room 4 Union Station.
(Tel. Ashley 4-1161 and 4-1165.)

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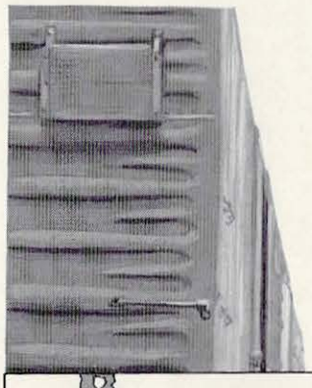
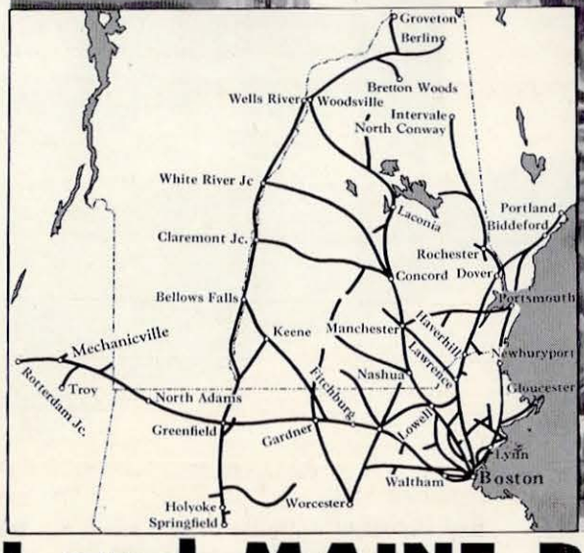
Our Boston and Maine representatives answer questions like this a dozen times a day. And they're glad to.

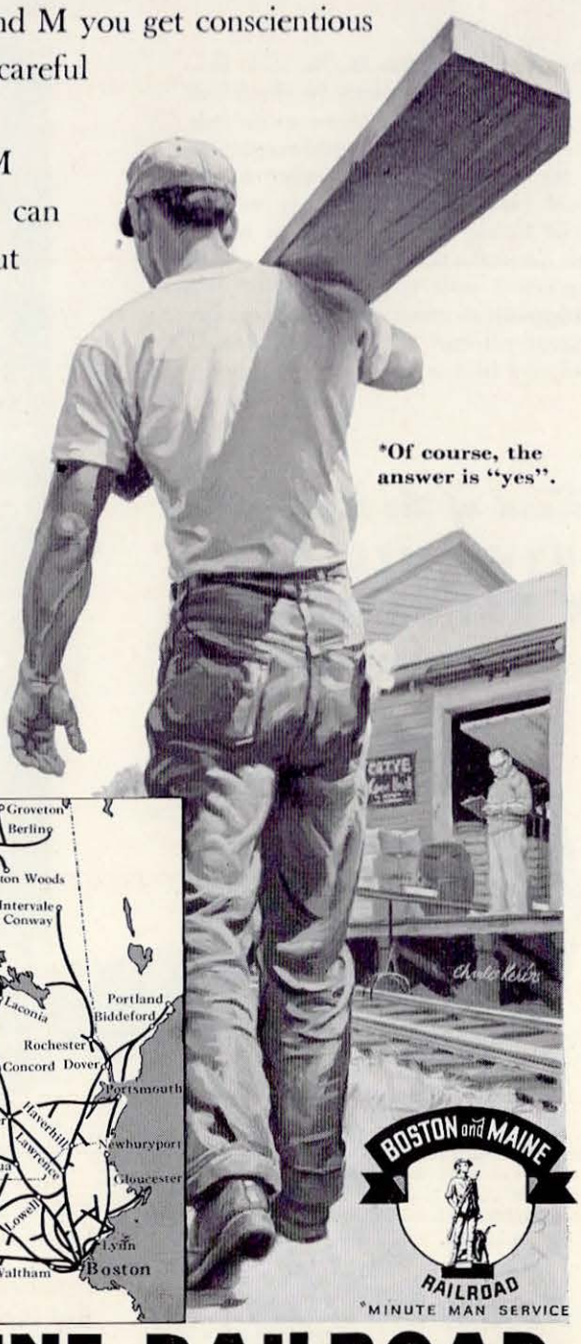
Our people specialize in *service*. They know Northern New England and they'll tell you the best way to ship your products to any corner of it.

When you ship via B and M you get conscientious service—prompt delivery—careful handling.

Any one of the B and M representatives listed here can answer your questions about Northern New England, quickly, accurately and completely.





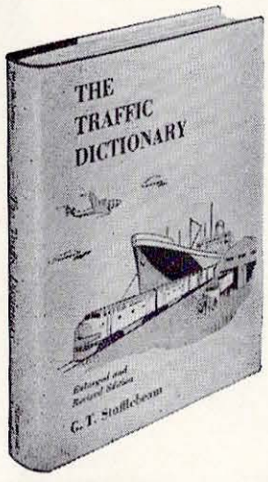


*Of course, the answer is "yes".

BOSTON and MAINE RAILROAD
*MINUTE MAN SERVICE

BOSTON and MAINE RAILROAD

THE TRAFFIC DICTIONARY
Fourth Edition



By GEORGE T. STUFFLEBEAM

Manager, Transportation Research, Remington-Rand

Enlarged and brought up to date this handbook contains 4,000 terms, phrases, code marks and abbreviations used in all branches of transportation. Terms used in warehousing, shipping documents, claim procedure and practice before the I.C.C. are included. Not only traffic managers but anyone concerned with shipping or traffic department work needs a copy of this standard reference.

292 pages, 4½ x 6, $3.75

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Please send me a copy of the edition of Stufflebeam's TRAFFIC DICTIONARY, on Ten Days' Approval. If satisfactory I will remit the list price of $3.75; otherwise I will return the book.

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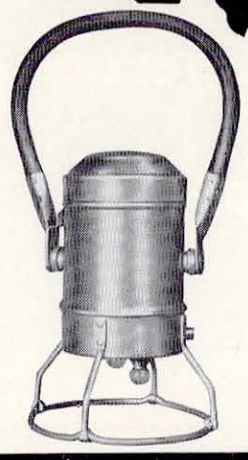

STAR MODEL 202-R

Twin bulb lantern for spotting and signaling. One bulb set in triple-plated, highly polished reflector for spotting; other bulb produces flood of light for signaling. Positive-acting, waterproof switch operates both lights. Bulbs are protected by rigid, extra-heavy wire guard. Fiber bail is large enough to carry over arm. Lantern is light weight, waterproof, rust-resistant; takes standard bulbs, 6-volt battery.

WRITE FOR CATALOG NO. 52

STAR **HEADLIGHT & LANTERN CO.**
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GUIDING THE WORLD'S RAILROADS SINCE 1889

We're Better Equipped than Ever!

MAINE CENTRAL

The progressive Maine Central Railroad, serving the great industrial and agricultural regions of the State of Maine, is today better equipped for freight handling than ever before. We're 100% dieselized except for peak winter season traffic. Our new equipment — among the finest and most modern in the world — allows us to maintain faster schedules and to meet satisfactorily the most widely varying shippers' requirements and the most extreme seasonal conditions. Our connections with the Middle Atlantic states and the West assure prompt service between Maine and any point in the country.

For Speedy, Reliable Service...Ship the *Modern* Way...
by MAINE CENTRAL

Would your hand brakes become inoperative if this happens?

If a broken gear tooth can make a hand brake inoperative—possibly at a critical time—is such a hand brake safe? We kept this known hazard in mind when designing the Equipco "Non-Spin" Brake.

That's why the Equipco is made with an *11-tooth* pinion—big enough to span such a gap. You may wish to look into this *plus* safety feature of Equipco Non-Spin Wheel Hand Brakes.

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puts your carloads on the spot

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Siding-to-siding dependability, the desire of shipping men, is at your call. Thanks to Sentinel Service, smart shippers have been taken off an uncomfortable spot. Now plans are made with the confidence that carloads will be *where wanted*—on siding, on time.

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Look into B&O's modern, highly efficient Sentinel Service—discover the advantages it can give you. ***ASK OUR MAN!***

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BALTIMORE & OHIO RAILROAD

Constantly *doing things*—better!

POSITIVE HOLDING POWER *with* WELDED RAIL!

When laying welded rail, resistance to rail creepage is assured with the Improved Fair Anchor, because it grips the rail securely and requires little maintenance.

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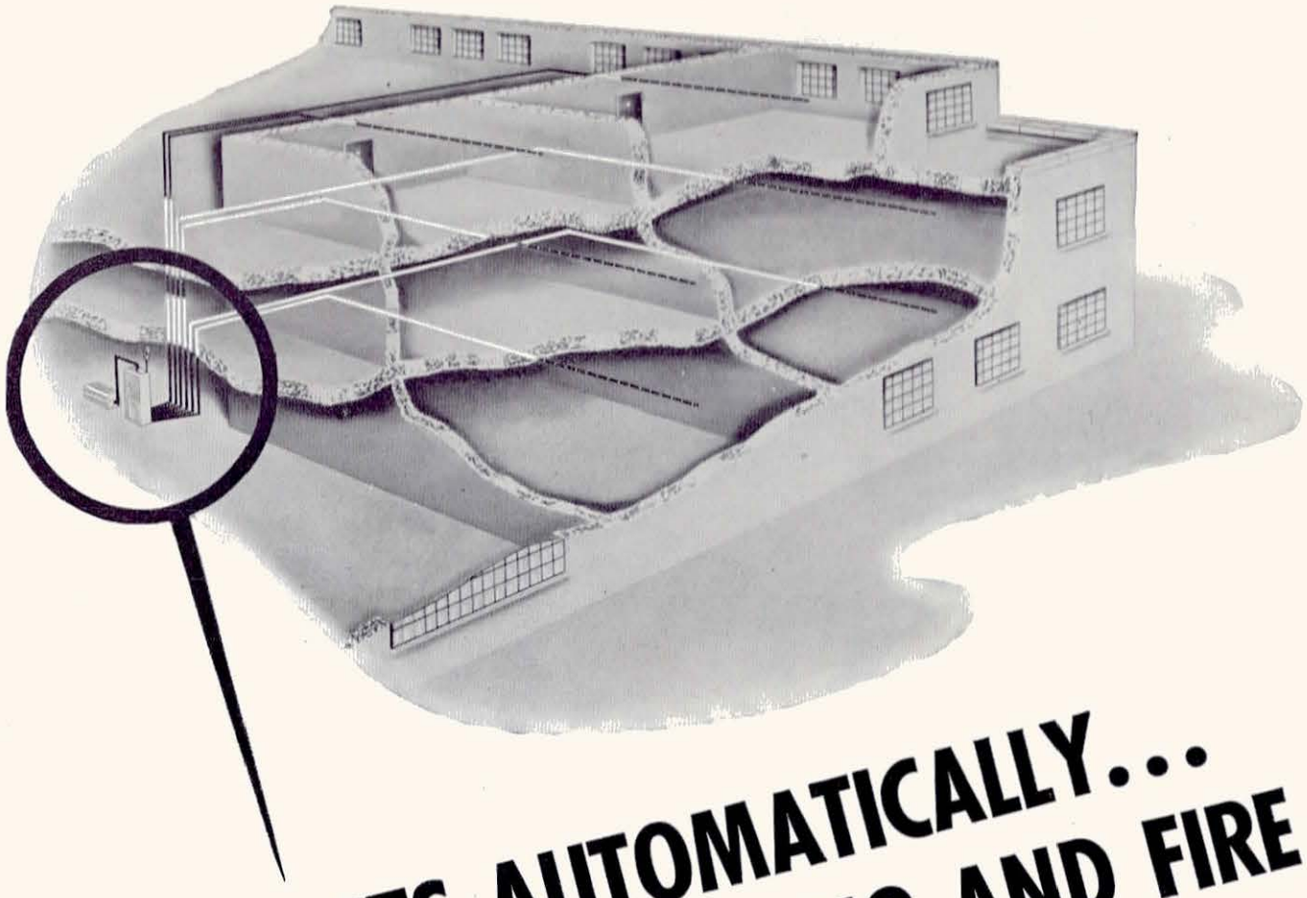
7 days a week



DETECTS AUTOMATICALLY... SMOKE, SMOLDERING AND FIRE

at any location in your plant or warehouse!

Each fire hazard point gets highly efficient, round-the-clock fire watchman service simultaneously, when a building is completely protected with a modern, fully approved C-O-TWO Automatic Smoke Detecting System.

The first whiff of smoke sets off an alarm, based on an exclusive operating principle . . . no chance of smoke, smoldering or fire spreading . . . instantly, the air conditioning shuts down, doors and dampers close, operating equipment stops and fire extinguishing systems actuate . . . a truly automatic fire watchman.

Four types of smoke detectors and several installation arrangements are available to fit your particular needs . . . single space systems, double space systems, multiple space systems, air conditioning duct systems . . . all function by drawing continuous air samples through simple piping to a smoke detector.

Actual fire tests made by the Underwriters' Laboratories, Inc. show that fire detection with this type of smoke detecting equipment is much quicker than other methods . . . because usually there is smoke or smoldering before flames break out.

Remember fire doesn't wait . . . so, with current expensive delayed replacements, why not let an expert C-O-TWO Fire Protection Engineer help you now in planning economical, fully approved fire protection facilities. Write today for complete free information . . . no obligation.

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IT'S "OPEN SEASON" ON COUPLERS! "Shooting" fibrous pegs into the open jaws of car couplers is a new time-saving Southern-developed wrinkle in railroading. The problem was to keep the coupler knuckles from jarring partially closed when making up trains in our modern retarder yards. And the answer wasn't "in the book."

So, one of our operating officers gave birth to this new better-railroading tool. It's an ingenious "pat pending" aluminum air gun that forces a cardboard-like wedge into the coupler, holding the knuckle open until the moment of contact with another coupler, then disintegrating. Original problem-licking thinking such as this is helping us give faster, better service for freight shipped via **SOUTHERN RAILWAY SYSTEM.**

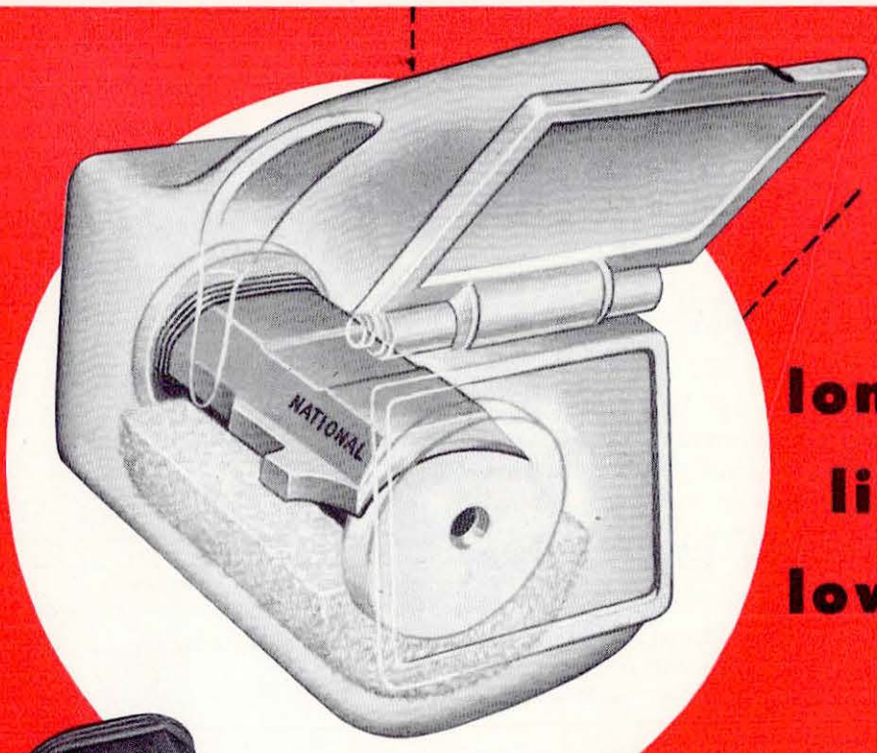
FACT:

Canadian Pacific freight service in the Canadian Rockies **is Dieselized**

It's good business to use the service that hauls **more** freight **faster**

Canadian Pacific has made another stride forward in the railroad history of Canada. Diesels "take over" for the 600-mile run in the great Canadian Rockies—haul more freight cars, and haul them faster. Better service—faster schedules contribute to the industrial expansion of booming Canada.

Canadian Pacific is unique in that it offers freight services by land, by sea, by air—across Canada, across the Atlantic, across the Pacific!



long service life at low cost!

For Dependability and economy, you can't beat Solid Journal Bearings. And there's no doubt about their long life . . . as high as 6½ million miles per car setout is what the records say.

All you need to know about N. B. M. solid journal bearings can be found in the following service-proved facts.

- ✔ Easiest to maintain—replacement takes minutes, without need for skilled labor.
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- ✔ Lowest running friction—a single film of oil permits faster acceleration, lower running resistance—particularly at low temperatures
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Behind National Bearing Division's reputation for dependable Journal Bearings lies 75 years of experience, backed by constant engineering research, production ability and extensive foundry facilities.

National Bearing Division . . . Serving America's Railroads since 1874 with a complete line of Journal Bearings, Engine Brasses and Bronze Parts.

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Fast Transportation of ***GRAINS*** *and* ***FEEDS...***

Big Business on the M. & St. L.

For 81 years, Fast Dependable Transportation in the Great Midwest of products of fertile farms and of the many things that farmers buy has always been Very Big Business on

The Minneapolis & St. Louis Railway

Since its first track was built in 1871, the M. & St. L. has contributed more and more to progress and prosperity of the Midwest by Fast Freight Service for the growers of Grains and other farm products and for the manufacturers and distributors of the Foods and Feeds made from those products.

In 1951, more than one-fourth of all freight carried by the M. & St. L. consisted of Products of Agriculture.

In the Midwest, premier farming region of America, the M. & St. L. serves four rich Agricultural States, Illinois, Iowa, Minnesota and South Dakota. These also have developed rapidly as Leaders in Industry, particularly the processing of grains and other farm crops.

Today a modern Diesel-powered Railway, the M. & St. L. is better staffed and equipped than ever before to provide

Fast Freight Service in the Midwest

- For Growers of Grains and Other Crops
- For the Great Feeds and Foods Industries

In 1951, Illinois, Iowa, Minnesota and South Dakota, the four States served by the M. & St. L., harvested 1,264,307,000 bushels of corn or 42% of the nation's crop; 645,615,000 bushels or 49% of the oats; 59,809,000 bushels or 23% of the barley; 10,257,000 bushels or 48% of the rye; 16,059,000 bushels or 48% of the flaxseed; 146,788,000 bushels or 52% of the soybeans; 23,104,000 tons or 21% of the hay; and as always vast quantities of other cash and feed crops.

THE MINNEAPOLIS & ST. LOUIS RAILWAY CO. — THE PEORIA GATEWAY

The **MINNEAPOLIS & ST. LOUIS** *Railway*

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Current Publications

BOOKS

The Transportation Economics of the Soybean Processing Industry, by Earl C. Hedlund. 189 pages. University of Illinois Press, Urbana, Ill. $3.

The economic importance of transportation cost has always been evident in conditioning the organization and location of manufacturing industries and of individual plants in the United States. This investigation was initiated primarily to evaluate the importance of the various aspects of transportation to the soybean processing industry, with particular reference to their influence on location of processing plants. Transportation cost, as affected by the commonly used institution of "processing-in-transit," has received major attention. Chapters cover locational studies and theories, soybean production and utilization, soybean processing and product utilization, general considerations of the transit privilege, processing of soybeans in transit, the economic effects of transit, the general railroad rate structure, the railroad rate structure for soybeans and soybean products, and locational analysis of soybean processing plants.

The Practice of Traffic Management, by Edward A. Starr. 249 pages. Transportation Press, P. O. Box 381, Dallas 1, Tex. $4.

The author covers the subject of industrial traffic management through a three-way approach; the practical side of shipping, the transportation background and the legal aspects of the subject. He discusses the traffic manager's place in industry, and the relationship of the traffic department to other departments in a particular organization, as well as the organization of a traffic department. There are chapters on shipment of property, commencing with preparation of goods for shipment and on through to their delivery at destination, on routing and tracing of shipments, materials handling, warehouse distribution, reconsignment or diversion, and transit privileges. The present systems of rate structure are discussed and brought up to date with respect to the latest decisions of the courts and the Interstate Commerce Commission.

PERIODICAL ARTICLES

Korean National Railway, by Lt. Raymond E. Guth. National Defense Transportation Journal, July-August 1952, pp. 30-34. National Defense Transportation Association, 930 F st., N.W., Washington, D. C. Single copies, $1.25.

The interesting story of the Korean National Railway—the equipment it has and the way that equipment is operated.

Lift Trucks Learn New Tricks, but Pesky Pallets Stick Around. Business Week, September 6, 1952, pp. 56-59. McGraw-Hill Publishing Company, 330 W. 42nd st., New York 18, N. Y. Single copies, 25 cents.

Discusses the advantages and disadvantages of pallets.

PAMPHLET

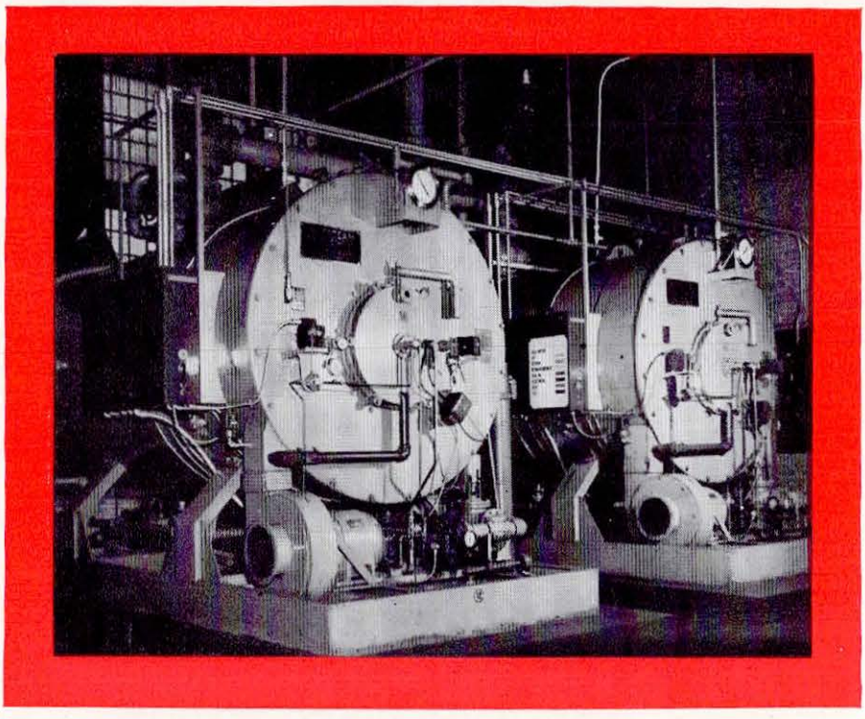
Joint Equipment Committee [Report on] Costs of Railroad Equipment and Machinery, July 1, 1952. 20 pages. Association of American Railroads, Finance, Accounting, Taxation and Valuation Department, Transportation bldg., Washington 6, D. C. Free.

Brings up to date through 1951 the report of historical costs of locomotives, freight cars and passenger cars, and average relationship of costs on various types of equipment and machinery.

TRADE PUBLICATION

Check Beauty Folder. Todd Company, P. O. Box 910, Rochester 3, N. Y. Available only to company executives who write for it on their letterhead.

"Every check you issue is seen by an average of 16 people. . . . You advertise your name, trade mark, brand or products under the most favorable psychological conditions—receipt of money." "Change payments into profits with check beauty," says this brochure outlining "methods of increasing company prestige and adding advertising impact" through effective check design. It incorporates actual samples of outstanding checks in the railroad field, which is the reason for its limited distribution.



AMESTEAM Pays For Itself In 3 Years on K. & I. T.

Here's tops in economy! **The busy Kentucky & Indiana Terminal Railroad installed two 250 hp. AMESTEAM Generators and two electric compressors to service its Louisville roundhouse, shops and yards. This new power plant is netting this important switching railroad an annual saving of $15,000 to $20,000, equivalent to one-third the cost of the installation.**

The AMESTEAM Generator is completely automatic; no boiler room attendants are required. Burns all types of fuel oil from Bunker C down to No. 1, as well as natural gas. Better than 80% thermal efficiency is guaranteed. Single units from 10 to 600 hp. Design pressure — 15 to 200 lbs.

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WILLIE STUMPS COUNTRY

A Vote for WILLIE is a Vote for BETTER SHIPPING

NEW YORK, Aug. 8 (RP)—Tee Pee Willie today told newsmen, "T. P. & W. never let-um red-tape tie-up shipments. Highball freight past congested big-city freight yards."

WASHINGTON, Aug. 12 (RP)—"T. P. & W.'s connections all on up-and-up," Candidate Tee Pee Willie told a group of congressmen today. "Our connections help-um shipper make-um more money by diverting shipments. You find-um all our connections listed on Railroad Party ballot."

BROKEN BOW, OKLA., Aug. 17 (RP)—Deep in "Injun territory," Candidate Tee Pee Willie relaxed today with a peace pipe. "No smoke on T. P. & W.," he said. "Engines all dieselized."

DALLAS, TEX., Aug. 23 (RP)—Texans today rallied around Candidate Tee Pee Willie. "T. P. & W. is straight-shooter," said Willie. "Always aim shipment straight at shipper's destination with no delay."

LOS ANGELES, CAL., Aug. 29 (RP)—Members of the Los Angeles Chamber of Commerce today heard Tee Pee Willie's views on the weather: "Sun always shine on T. P. & W. shippers. No wonder. Shipments never come late."

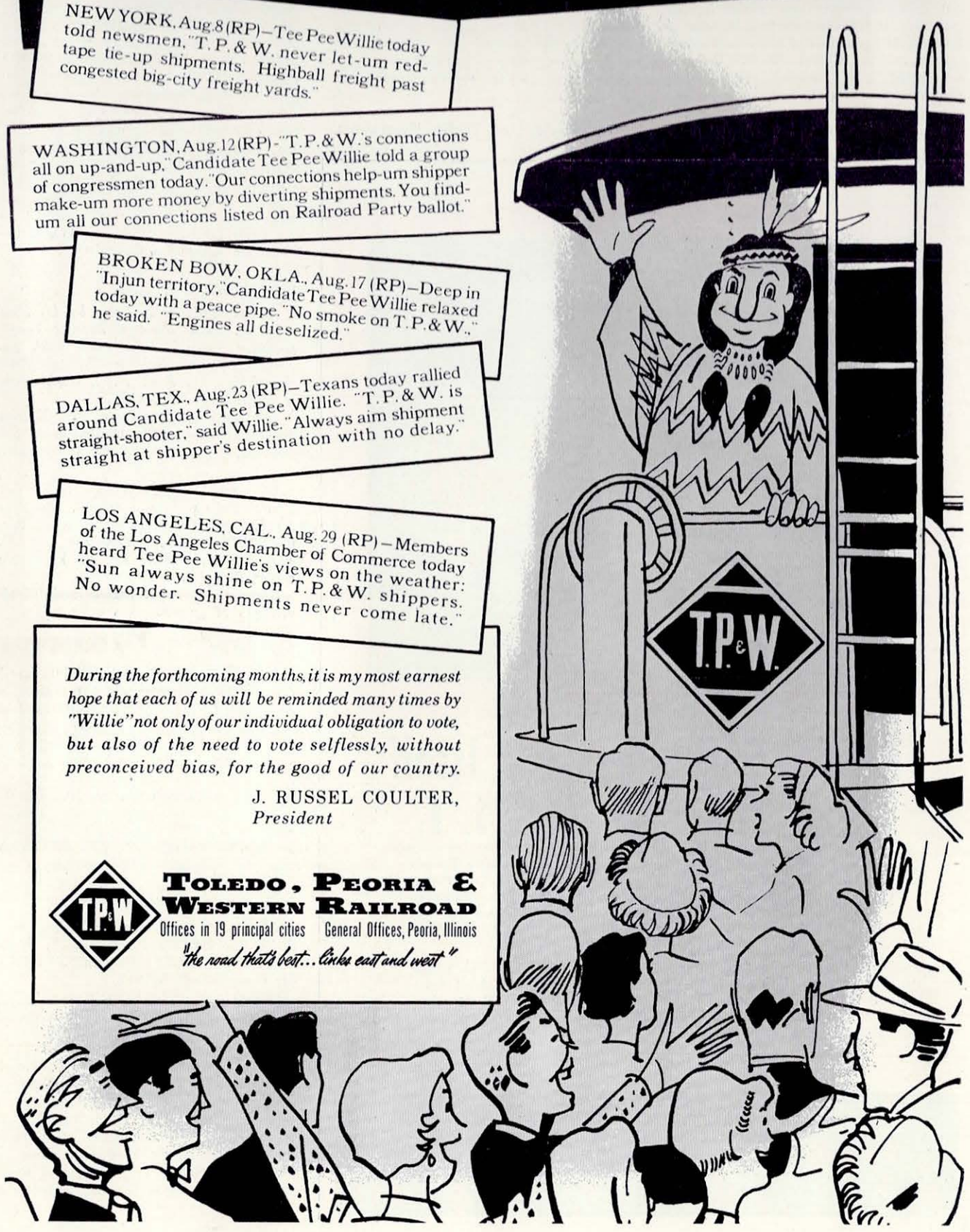
During the forthcoming months, it is my most earnest hope that each of us will be reminded many times by "Willie" not only of our individual obligation to vote, but also of the need to vote selflessly, without preconceived bias, for the good of our country.

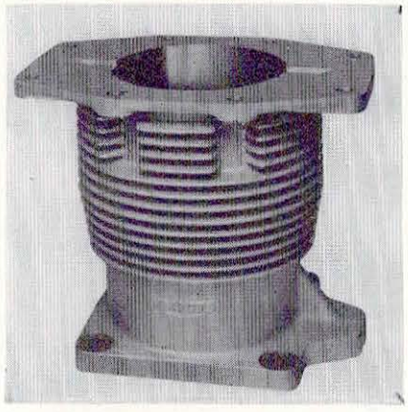
J. RUSSEL COULTER,
President

TOLEDO, PEORIA & WESTERN RAILROAD

Offices in 19 principal cities General Offices, Peoria, Illinois

"the road that's best... links east and west"

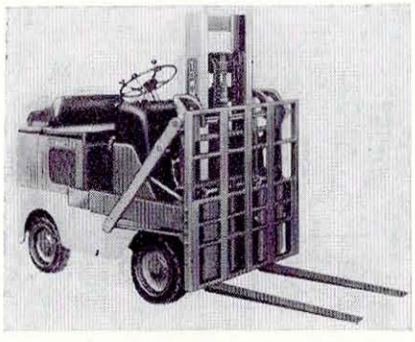




Air Compressor Replacement Cylinders

Cylinders, made of air-furnace gun iron, have been marketed as replacement parts for diesel locomotive air compressors. The dense pearlitic structure of these cylinders, fabricated by Hunt-Spiller Manufacturing Corporation, South Boston 27, assures long service and even-wearing qualities, according to the manufacturer.

By design refinements and casting techniques, approximately 42 per cent has been added to the area of the heat-radiating fins. This area is concentrated at the head-end of the cylinders where heat dissipation, to a greater degree, is required.



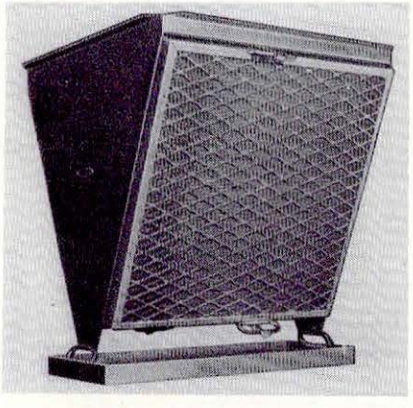
Unloader Accessory For Fork Trucks

An unloading accessory with a 49-in. stroke applicable to most Towmotor truck models is available from the manufacturer, Towmotor Corporation, Cleveland 10, Ohio. The accessory is so designed that it does not interfere with normal operation of the truck to which it is applied, although the basic load capacities of various models are reduced slightly when the accessory is added. The height of the "pusher" screen above the forks varies from 42¼ in. to 49¾ in., but special height screens can be made for individual requirements. The units are hydraulically operated; all controls are in easy reach from normal driving position.

High Purity Aluminum Alloy

A new aluminum alloy, designated Alcoa C57S, could be used as an economical and long-lasting replacement of chromium plating and stainless steel, according to its manufacturer. It is said to hold promise as a trim.

The product, which will take an Alumilite finish, has been developed by Aluminum Company of America, Pittsburgh 19. The alloy offers the added attraction of colored Alumilite finishes in many shades. Alcoa C57S when treated, approaches aluminum in the transparency, metallic luster, and sheen of its finish, while offering good mechanical properties. It has, according to the manufacturer, excellent forming characteristics.



Grease Eliminator

A device said to prevent accumulation of grease or lint in duct systems, protect motor and blower equipment, reduce maintenance costs and provide better ventilation, is manufactured by the Farr Company, Los Angeles 45. It is designed for installation in kitchen ventilating systems where exhaust ducts present a fire hazard. It is available in a wide variety of sizes and finishes to match existing equipment.

A tray is suspended below the unit to catch dripping grease accumulated by the filters. Filters are quickly removed and snapped back into place and may be cleaned by flushing under a hot water tap.

Fireproof Drapery Material

A permanently fireproof drapery material of synthetic fiber having the appearance and feel of wool is now being marketed under the name Infinity Fireproof Fabrics. They are recommended wherever fire codes must be considered.

Introduced by Edwin Raphael Company, Chicago 10, the fabrics are woven as a full spun Saran-face material. They are said to be mildew-proof, moth-proof, have dimensional stability, dry rapidly and need no ironing. These fabrics have been woven in weights suitable for usage as a flat surface material for printing, textured casement drapery and heavier weights in solid or patterned weaves.

Corrosion Protection Without Coatings

A powder-like substance to provide protection against rust, under high humidity conditions without coating, to reduce the cost of packaging metal parts and protect them during storage and shipment, is VPI, a volatile amine nitrate marketed by the Shell Oil Company, New York 20.

The formulation can be applied by placing it in crystal form in a package containing parts to be protected or by dissolving it in a water or alcohol solution and spraying it on the parts. Very small quantities are sufficient as protection is secured from a vapor which is carried to the metal where it condenses to provide a thin film.

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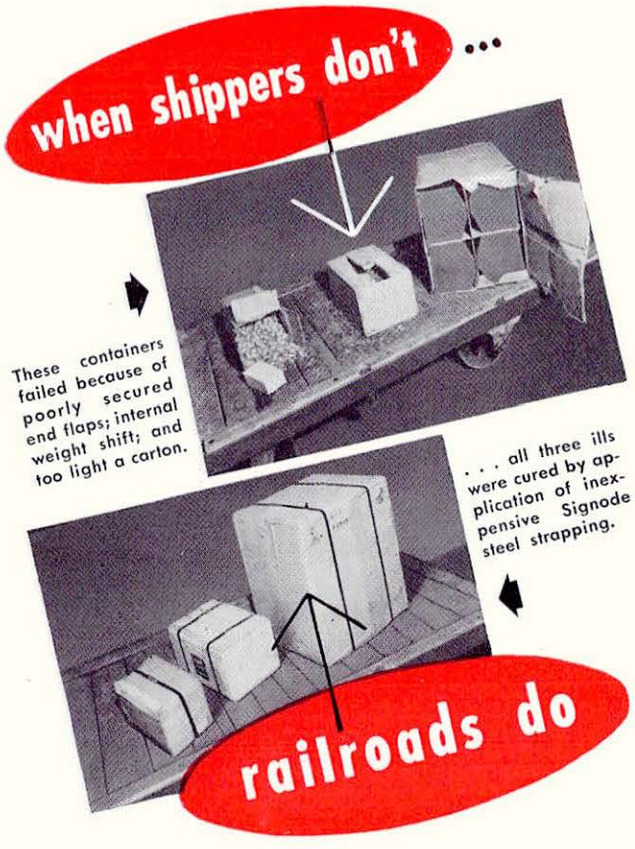
Gering, Nebraska
Glendale, California
Hollywood, California
Kansas City, Missouri
Las Vegas, Nevada
Lewiston, Idaho
Lincoln, Nebraska
Long Beach, California
Longview, Washington
Los Angeles, California
Memphis, Tennessee
Milwaukee, Wisconsin
Minneapolis, Minnesota
New Orleans, Louisiana
New York, New York
Oakland, California
Ogden, Utah
Omaha, Nebraska
Pasadena, California
Philadelphia, Pennsylvania
Pittsburgh, Pennsylvania
Pocatello, Idaho
Pomona, California
Portland, Oregon
Reno, Nevada
Riverside, California
St. Joseph, Missouri
St. Louis, Missouri
Sacramento, California
Salina, Kansas
Salt Lake City, Utah
San Diego, California
San Francisco, California
San Jose, California
San Pedro, California
Santa Ana, California
Santa Monica, California
Seattle, Washington
Sioux City, Iowa
Spokane, Washington
Stockton, California
Tacoma, Washington
Tulsa, Oklahoma
Victor, Idaho
Walla Walla, Washington
Washington, D. C.
Winston-Salem, N. Carolina
Yakima, Washington

(And—in addition—passenger and freight representatives at all Union Pacific Railroad stations will be glad to assist you.)

BE SPECIFIC "SHIP" UNION PACIFIC


when shippers don't ...
These containers failed because of poorly secured end flaps; internal weight shift; and too light a carton.
. . . all three ills were cured by application of inexpensive Signode steel strapping.
railroads do

. . . with Signode Steel Strapping!

Better internal packaging would have prevented this damage. The railroad recoopering crew had to hold up delivery to do what should have been done before—with Signode steel strapping.

Some shippers astonish even container manufacturers with the faith they put in their products. For example, the containers shown here were sent to market strapless. Results . . . embarrassing delays, a trip to the recoopering shop, and expensive freight damage claims.

In the railroad recoopering shop where these photos were taken, strapping methods are popular. There is a good reason. They are based on information about new and better tested and approved ways to protect shipments in transit passed on by Signode fieldmen.

Maybe your men missed the Signode fieldman the last time he was around. He'll be glad to call again. Just write to

SIGNODE STEEL STRAPPING COMPANY

2637 N. Western Ave., Chicago 47, Ill.

Offices Coast to Coast

In Canada: Canadian Steel Strapping Co., Ltd.

SIGNODE

this seal means security in shipping

Benchmarks and Yardsticks

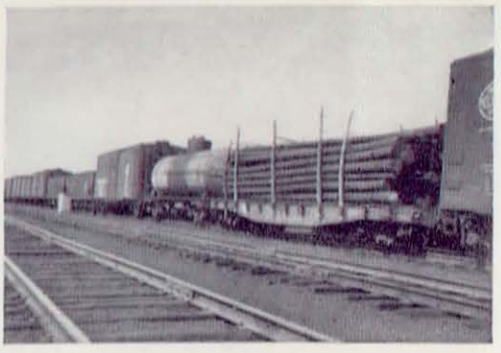
JIM SHORES OF THE TEXAS & PACIFIC was telling us the other day of the heartening public response to the company's last-season institutional advertising program. It will be recalled that the railroad's "copy" identified the T&P as the champion of four varieties of virtuous action—viz., "Work, save, vote, pray." Of the four themes, it was the one in advocacy of prayer which brought the overwhelming response—suggesting the conclusion that this theme sparked an emotional reservoir of tremendous potency.

In view of such evidence—which could be readily corroborated by the similar experience of others—it seems strange that this note isn't struck more often by publicists promoting a cause which has a high and honest purpose. It wouldn't do much good, probably, to try to invoke this category of emotional energy in behalf of a trivial or selfish objective, such as the sale of a particular brand of consumer's merchandise, e.g., cigarettes or ladies' underwear, or to promote the purchase of costly appliances just "to make your neighbors jealous." But what's wrong with identifying an honest and socially useful institutional objective with a widespread emotion of deep ethical effectiveness?

Hesitancy and caution in this sector are understandable—because any inadvertent disclosure of sectarian preference would more likely provoke disagreement and ill-will than feelings of cooperation or zeal for good works. Fear of rancor over individual differences about such matters—which certainly do exist and do arouse resentment—is so intense that it has made most people as secretive and furtive about revealing their sources of ethical power as they are about their love lives.

This is a great loss—because power to act courageously and farsightedly in the face of temptations to give way to cheap and ineffective expedients is a power than can be developed and strengthened, by methods not dissimilar to those by which proficiency in some sport, or in playing a musical instrument, is acquired. Many people—many more than will admit it, no doubt—develop such power by the traditional processes known as "orthodox." Many others have discovered their own ways of supplying themselves with effective motive power toward valor and disinterestedness. Can't the discussion of these things be a little more outspoken—to increase knowledge, and hence the prevalence of these qualities which alone serve to raise human beings above the animal level?

These matters are not "otherworldly," but, on the contrary, are of immediate and practical importance to the quality of leadership available here and now in the railroad industry, and in all other phases of our national life. J.G.L.



more facts about

CAR PERFORMANCE

with

LOW-COST SOLID BEARINGS

Analysis of performance data for new, on-line, and interchange equipment points the way to low-cost solution of hot box problems

Here are three more indisputable facts about car performance with low-cost solid-type bearings. These facts are only highlights from the solid bearing record — emphasized here to point the way to even better performance through improved maintenance and intensified development.

Fact 1. On railroad after railroad, new solid bearing freight cars are performing equally as well as those equipped with far more costly alternate type bearings. These expensive bearings have been in use on freight cars an average of less than 3 years, and have not established any real advantage in reducing hot boxes when compared with solid bearing cars of equivalent age and service.

Fact 2. Solid bearing performance in on-line service, passenger and freight, is unsurpassed. Alternate high-cost bearings, where used, have *not* improved car performance in this service as measured by road failures per number of units installed.

Fact 3. The daily operating efficiency of all solid bearing interchange cars is better than 99.97% — even though these cars average over 20 years old. But the efficiency of on-line solid bearing equipment is even greater. Thus, the difference in performance reflects the difference in maintenance standards far more than it does the age of the car.

HOW TO LICK HOT BOXES

If you really want to lick hot boxes, at a cost consistent with economic realities, you can do it best with low-cost solid bearing designs. Heat-resistant lining metals and low-cost alarms are already available. Improved lubricating methods are being developed. Combine these improvements with an intensified program to upgrade maintenance standards, and hot boxes will virtually disappear.

Then, too, you still have all the other advantages which solid journal bearings bring to railroad rolling stock. You can take the maximum load, make the fastest schedule. You save 1,000 pounds per car and get the smoothest ride on any standard truck. You maintain the lowest per diem interchange rates for car rental. But most important of all, you get the best possible bearing performance at the lowest possible cost.

Write for your copy of "The Facts About AAR Solid Journal Bearings."

Magnus Metal Corporation, 111 Broadway, N.Y. 6; or 80 E. Jackson Blvd., Chicago 4.

MAGNUS

Solid Bearings

Right for Railroads

...in performance...in cost

MAGNUS METAL CORPORATION *Subsidiary of* **NATIONAL LEAD COMPANY**

ALICE IN WONDERLAND FROM A COAL MAN

The railroads are doing fine; their credit is excellent; they have plenty of money with which to make necessary capital improvements; and they shouldn't have gotten the 15 per cent increase the Interstate Commerce Commission allowed in Ex Parte 175 (the final installment last April). If they would only price their passenger service to cover full costs, they could drive most of the business away and thereby save the money they use to pay passenger deficits. They should do likewise with less-carload freight shipments. This accomplished, they would enjoy profits so high that they wouldn't have to ask carlot shippers to pay higher rates when the cost-of-living goes up.

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(3) Deterioration in cash position which has occurred since the war is only "normal."

(4) The railroads' failure to sell stock is not the result of poor credit, but because "the rail industry is allergic to stock issues." They just don't choose to get money from new stocks. [Here, Dr. Edwards contradicts every statement of every investment analyst, and of investment bankers, we've ever heard.]

(5) Railroad complaints of time-lags in commission consideration of their needs are unfounded, because the I.C.C. has had before it the matter of general rate increases almost continuously since the end of the war. [This is like saying that the patient must have been cured because he sat perpetually in the doctor's waiting room.]

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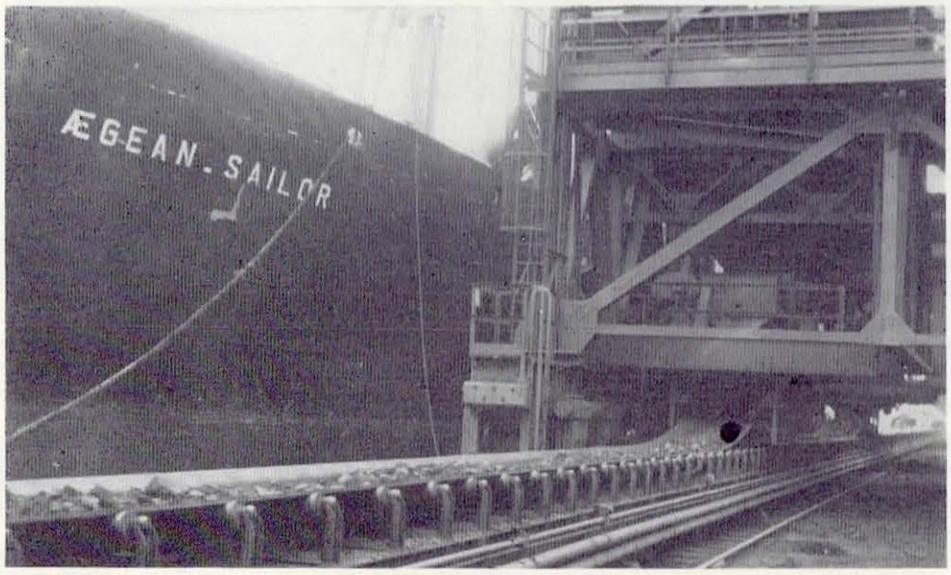

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(6) The I.C.C. failed to take into consideration the mounting deficits from passenger and less-carload service, which absorb too much of the net earned from

carload shippers. [The railroads don't like the deficits either, but the state commissions stand in the way of mitigating the first, and the shippers certainly won't let the railroads get out of the latter.]

Railroads Don't Need Money!

Dr. Edward's piece appears to arrive at three major conclusions:

(1) The railroads were doing okay before they got the Ex Parte 175 rate increase—in relation to their "normal" earnings.

(2) The sole reason, therefore, for the I.C.C.'s "liberality" is that it wanted to give them enough money to buy, from earnings, the things they need to improve themselves. Actually, the railroads have about completed their improvement job. If they need more funds, they ought to borrow the money; they've got the credit.

(3) As long as the railroads persist in running up deficits from passengers and l.c.l., they don't deserve freight rate increases.

Even if it could be shown that the railroads recently have been healthier than usual (which we can't), the observation begs the question. The fact is that the "normal" financial health of the railroads has been far from satisfactory for decades. Compare their rate of return since 1920 with any industry you choose, including the regulated electric utilities. Only local transit has been worse off, on the average. Does Dr. Edwards contend that the "normal" is to be made the "eternal"? Does he recognize no need for improved earnings in the boom times through which we are now passing?

Most shippers would disagree with Dr. Edwards' belief that the railroads don't need to make additional improvements of consequence. Take Earl B. Smith, for example, director of traffic of General Mills, Inc.—a firm, incidentally, which has had to bear far higher percentage increases in railroad rates than Dr. Edwards' constituents.

Mr. Smith has been going about arousing shippers to help improve railroad earnings and credit so they can get the better railroad facilities they need. He has figures to prove that the railroads must go on spending money at at least the recent rate to satisfy the shippers' interest in cost-cutting and carrying capacity. He can prove that the railroads cannot go on spending at the present rate unless they earn more than they do. Mr. Smith thinks that dividend payments (about 3.34 per cent) by the railroads since the war have been "conservative in a period of the highest earnings in history for industries other than the railroads," and that they should be permitted to pay some $475 million to stockholders annually "to restore their credit standing." Mr. Smith calls the railroads' rate of return over the past 30 years low. He thinks their net income today is out of line with the volume of business they're doing; finds it "striking" that their net income in 1946-1950 (just prior to opening of Ex Parte 175) was down 27 per cent from the net in 1926-1930, although ton-miles were up 40 per cent. And he is alarmed about the shrinkage in net working capital.

As a shipper, Mr. Smith doesn't like rate increases. But his solution to the problem of earnings is not, like Dr. Edwards', a foray into the world of never-never. He says the way to restore railroad earning power is to end subsidies to others; to modernize regulation; and to help the railroads buy improvements which will cut their operating costs and attract traffic.

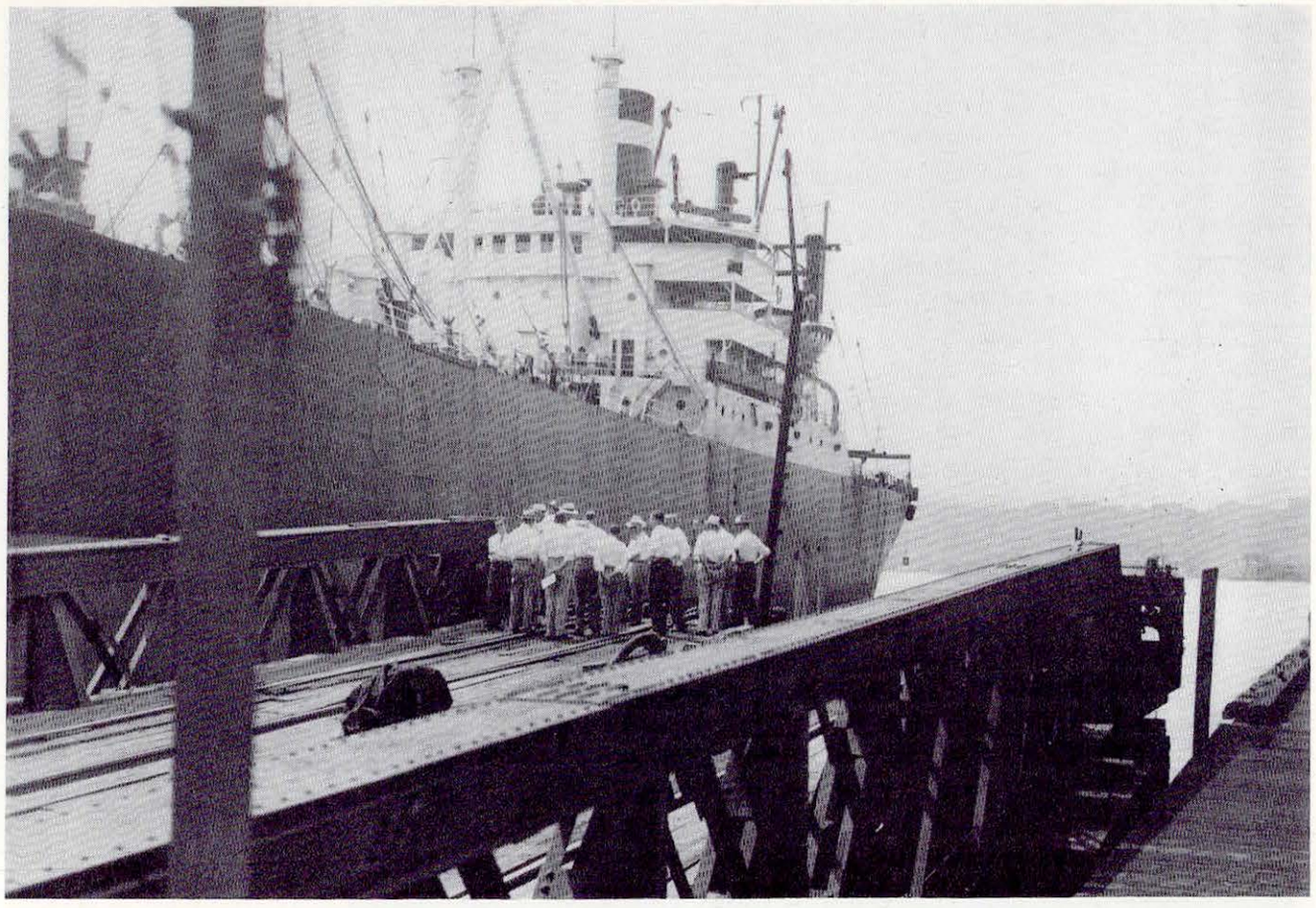
Blind to Realities

Dr. Edwards' appraisal of freight rate increases is, beyond and above all these defects of judgment, completely blind to obvious necessities in a time of galloping inflation. His own business has raised prices for railway fuel coal, *at the mine* (and, hence, not reflecting transportation charges or handling costs), an average of 140 per cent from 1939 to the first half of 1952. Since 1945 the railways have borne an increase of more than 65 per cent in the mine price of their solid fuel. Average railway freight revenue, per ton, earned on soft coal carried for Dr. Edwards' constitutents, in contrast, was, in 1951, only 42 per cent higher than it was in 1939.

To deny the railroads increases in rates during inflationary periods is to contend either that their earnings previously were unconscionable and should be permanently reduced, or that the roads are immune to increased costs. The shippers for whom Dr. Edwards works know better than that.

"ENTIRELY DIFFERENT SITUATION"

"It is important to remember that the conditions which existed at the time when regulation on a national scale was first conceived and undertaken, no longer obtain. We now find an entirely different situation. The purchaser of transportation, whether it be for transporting persons or goods, has a wide choice of services provided by the several types of transportation agencies . . . Any semblance of railroad monopoly in the transportation field has long since disappeared in this country. Yet, the concept of regulating the railroads, which stemmed from the near-monopoly that existed more than 65 years ago, lives on—coloring and, indeed, dominating the numerous regulations which have been promulgated . . . No member of the American business family is more directly interested than the railroads in working for the still greater growth of this country. The railroads are eager to make their fullest contribution to that united endeavor, but if they are to do so, they must be freed from some of the restrictions and inequalities with which they are now surrounded. They must have an opportunity to earn sufficient income to permit the continual improvement of their physical plants, so that service will be not only adequate but also rendered at the lowest possible cost . . . Management must be permitted to exercise its prerogatives in the field of operations. The railroads must be able to acquire the financial status needed to provide the equipment and facilities to insure the nation of a transportation system adequate in times of peace and ready to meet any emergency. In order to properly safeguard the public interest, the administration of regulations pertaining to all forms of transportation should be coordinated under a single, independent governmental agency, responsible only to the Congress."—*From an address to the Traffic Club of Jacksonville, by John W. Smith, president, Seaboard Air Line.*



The training group stops at 26th st. on Manhattan Island to learn how float bridges work.

How the B&O Trains Freight Service Salesmen

Better acquaintance with property, through "facilities inspection trips," permits "realistic" selling of railroad's services

Over the past seven years the traffic department of the Baltimore & Ohio has made a strong effort to train departmental representatives—they're salesmen on the B&O, not solicitors—to be better able to sell the freight service provided by the railroad. As a part of that program, the railroad instituted, in 1946, a series of facilities-inspection trips for parties of salesmen. It was hoped that the growing knowledge of the B&O facilities by the salesmen would make it easier for them to sell "B&O" routing. A *Railway Age* editor had the privilege of spending one week of a two-week training trip with a group of chief clerks from various B&O traffic offices. The B&O management felt that it was particularly important that chief clerks, who have to handle so many telephone calls in relation to service while the "street" men are out, should have the chance to go through this course.

The training trips consist not only of inspections of various freight stations, yards, piers, and other facilities, but include also a series of lectures on various subjects. The B&O ran eight such trips this summer, with 12 men included in each group, and in seven years 28 groups have taken the course. Participants in the last series of training groups listened to 12 lectures in 12 days, most of them in the evening after dinner. Most of the lecturers were from specialized subdepartments of the traffic department, such as coal traffic, foreign freight, perishable and livestock department, and the industrial and agricultural development departments. Three of the lectures, however, dealt with rates and divisions and constituted an introductory—or brush-up—course for those who had little rate training or had been away from that type of work for a considerable period. Also, transportation de-

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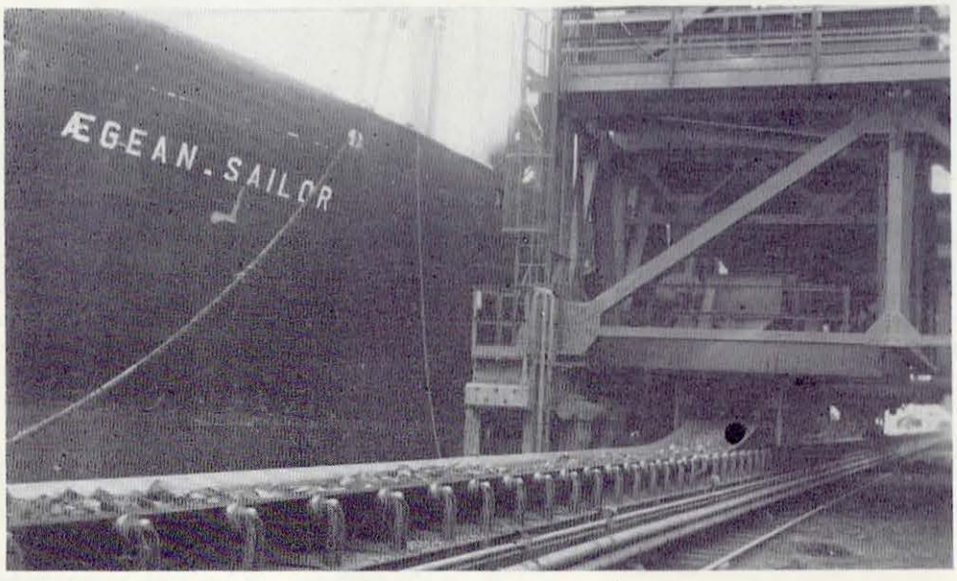

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Part of the group talks with supervisors at the Baltimore ore handling facilities while others watch operations.

On the open docks at Baltimore B&O cranes load several ships at one time.

handling fresh meat, or to explain what refrigerated warehouse facilities are served by the B&O at Toledo, and that certain cartage companies there can handle distribution of frozen foods or similar commodites. Now that they have seen it operate, to many of the "trainees" the statement that the coal dumper at Howland Hook (Staten Island, N. Y.) can handle X number of cars per day is much more of a reality, with such figures likely to stick in the mind.

In effect, what the B&O is doing is to train its freight service salesmen to sell on a realistic basis what the railroad has to offer. Emphasis, of course, is placed on the railroad's ability to compete with other carriers serving the same areas.

One point which was emphasized many times in the course was the B&O's competitive position in most places. For example, where reciprocal switching is practiced the traffic men were told that because of this the B&O was able to reach practically all industries in Town X, even though the B&O actually did not perform the switching. In the Chicago area, they were told, the B&OCT connects with all trunk lines entering the city, and then they were shown that there are many good industrial locations on that belt line.

Cities visited by the training group included New York; Philadelphia; Baltimore; Washington; Cumberland, Md.; Youngstown, Ohio; Akron and Barberton; Toledo; and Chicago. Additional trips are planned for 1953 to traverse the line from St. Louis to Buffalo, N. Y. Points to be visited will include Louisville, Ky.; Cincinnati and Hamilton, Ohio; Indianapolis; Wheeling, W. Va.; Pittsburgh; Cleveland; Buffalo; and Rochester. The traffic men then will have completed their basic training and with the knowledge thus gained will be better equipped to sell B&O service.

"A railroad which permits its freight car equipment to lay idle on shop storage tracks is like a department store with its shelves bare. Neither have anything to sell. When one considers the tremendous investment in but a single freight car, it is folly to have it idle for the sake of the few repair dollars necessary to put it in condition to earn interest." —*Charles L. Patterson, vice-president and general manager of the Duluth, Missabe & Iron Range, before the Northwest Shippers Advisory Board at Duluth, Minn., on July 24.*

Traffic Shouldn't Be Arbitrarily Denied "Inherent Advantages" of Rail Haul

It would pay the railroads, says W. K. Tate, to see that the railroad "advantage" is reflected in rates where competition is a factor

W. K. Tate, traffic vice-president of the Nashville, Chattanooga & St. Louis, has for almost two years been discussing with traffic officers in Southern territory an approach to truck-competitive rates—in some respects resembling the proposal put forward in *Railway Age* of July 28, page 31, by the Monon's president, John Barriger. Mr. Barriger proposed that a "ceiling" be placed on railroad rates at slightly under truck costs (where railroad costs are lower than truck costs).

Mr. Tate—who, incidentally, is an engineer by training—questions the effectiveness in increasing railroad revenues of two time-honored devices, viz: (1) raising rates on traffic for distances where the traffic has already been diverted to trucks either because of their lower rates or superior service at equal rates; or (2) reducing rates for those distances where the traffic will stay on the rails without a reduction. Such devices, he believes, dissipate revenues rather than increase them.

Alternatives to Ineffective Expedients

As alternatives to these two ineffective expedients, he proposes (1) reducing "paper rates" to attract traffic back to the rails (wherever such reduced rates would be profitable to the railroads but unprofitable to trucks); and (2) applying such rate increases as are necessary only to traffic which will stay on the rails (since, after all, that's the only traffic which actually pays any increases anyhow).

Mr. Tate has studied the cost and other characteristics of truck transportation, as well as that by rail, and makes some significant observations, summarized as follows:

(1) The average overall costs of truck transportation are much higher than costs by rail—even despite the subsidies the trucks enjoy (and which show few signs of early disappearance). Hence, there's no reason why the railroads should not prevent further erosion and regain much of the traffic they have lost if they will use their cost advantage scientifically, wherever it exists, in pricing their service.

(2) Truck service is often but not always preferred by shippers to rail service if rates are exactly equal—because of usually faster service by truck; lower carload minima; less risk of damage; and easier packing requirements. To attract traffic back to the rails, some differential under trucking costs will usually be necessary. The railroads can, generally speaking, offer such differentials and still get rates which are profitable to them. There isn't much to hope for in easing the competitive situation by getting larger fees for highway use from the trucks—because even so substantial an increase as $1,000 in fees on a heavy truck would add only a mill or two to the ton-mile expense of hauling freight by truck.

(3) The unit cost of rail movement declines as volume rises, while the reverse is true of trucks. The principal reason for this paradoxical condition is that trucks are not burdened with large fixed charges for providing and maintaining their roadways. Aside from this, however, a one-truck operator uses his yard for a garage and his house for an office, does his own driving and repairing, and keeps his own books. As his business grows, he has to hire bookkeepers, mechanics, drivers and solicitors, and provide garages, with the result that operating costs per unit rise.

(4) Line-haul cost by rail decreases with distance, but with trucks the cost remains practically constant. For example, where a round-trip of 225 to 250 miles (112-125-mile radius) can be made in 8 hours, truck movement is at its maximum of economy. One garage will do for this operator. He won't have to pay away-from-home expenses to his drivers. Beyond this distance, says Mr. Tate, "there is a perceptible increase in ton-mile cost, which, for a fully loaded truck, is fairly uniform regardless of length of haul. To meet this situation rate scales must progress uniformly within the range of truck competition."

(5) Elaborate railroad freight classification—based on what various commodities could afford to pay without obstruction to free movement—falls down with the universal prevalence of truck operators who don't care how little or how much a commodity "ought" or "can afford" to pay; if the traffic will pay something in excess of truck-mile cost, the trucker will take it whether it be silk or sand. Railroad rates made on a basis of what some commodity "ought" or "can afford" to pay—rather than on the basis of how much the railroads could get above their costs for the movement and also capture the traffic—just set up an "umbrella" for the truckers, permitting them to operate in situations where they are the high-cost carrier.

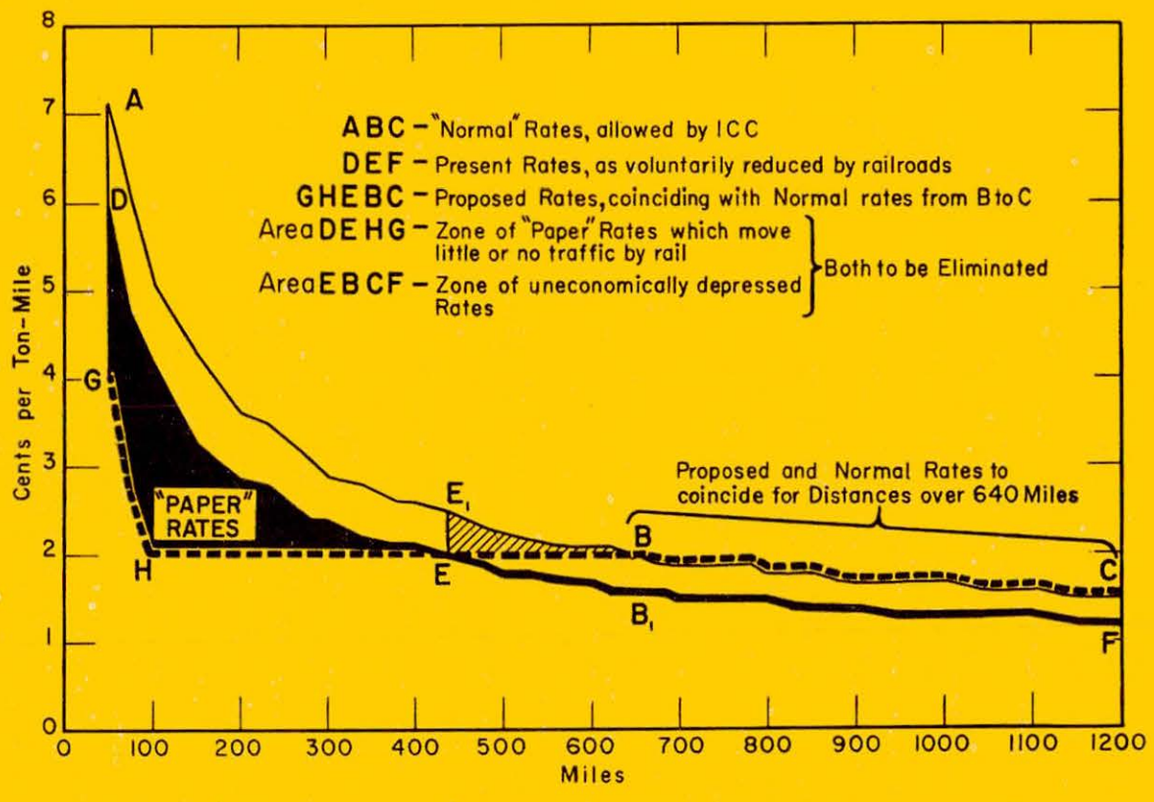
Lots of "Paper Rates"

(6) The *lowest* ton-mile operating truck cost Mr. Tate has found is 1½ cents—but this was plant-to-plant movement with heavy loads in both directions. In his opinion there are plenty of "paper rates"—now producing next to nothing in railroad traffic or revenue—which could be reduced to such comparatively attractive levels as 3 or 4 cents per ton-mile (i.e., double or triple average railroad ton-mile revenue) and "enable us to regain a very large share of the business we have lost. Even with a low minimum weight of 36,000 lb. per car, 3 cents per ton-mile produces 54 cents per car-mile."

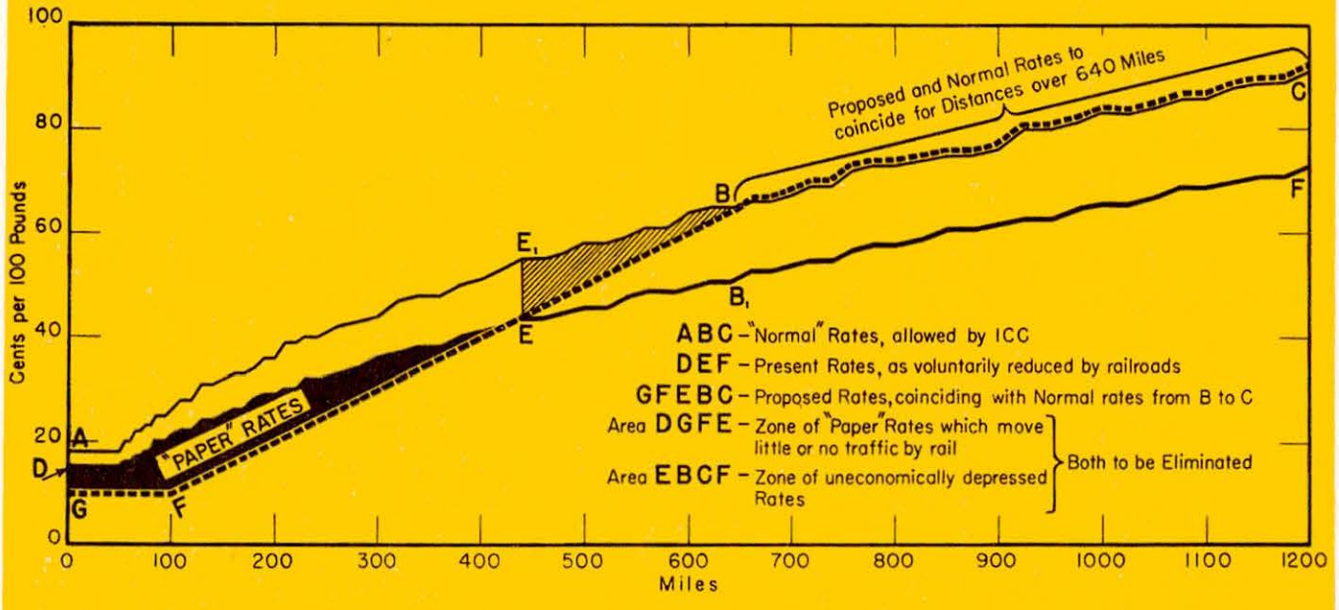
(7) In attempting to meet truck competition, the railroads have usually adopted the device of making per-

MR. TATE'S PROPOSAL FOR TRUCK-COMPETITIVE RATES

(Shown in Cents per Ton-Mile)


Cents per Ton-Mile
Miles
ABC – "Normal" Rates, allowed by ICC
DEF – Present Rates, as voluntarily reduced by railroads
GHEBC – Proposed Rates, coinciding with Normal rates from B to C
Area DEHG – Zone of "Paper" Rates which move little or no traffic by rail
Area EBCF – Zone of uneconomically depressed Rates
Both to be Eliminated
"PAPER" RATES
Proposed and Normal Rates to coincide for Distances over 640 Miles

(As the Rates Appear in Cents per 100 lb.)


Cents per 100 Pounds
Miles
Proposed and Normal Rates to coincide for Distances over 640 Miles
"PAPER" RATES
ABC – "Normal" Rates, allowed by ICC
DEF – Present Rates, as voluntarily reduced by railroads
GFEBC – Proposed Rates, coinciding with Normal rates from B to C
Area DGFE – Zone of "Paper" Rates which move little or no traffic by rail
Area EBCF – Zone of uneconomically depressed Rates
Both to be Eliminated

The small cross-hatched area on both charts represents the only traffic favorably affected by the percentage rate reduction DEF

centage reductions from existing rates—carefully maintaining, that is, the disadvantage of their traditional pattern of rate progression. A percentage reduction from the traditional rate pattern is, almost without exception, utterly ineffective in getting traffic back on the rails for shorter hauls, while it dissipates revenue on longer hauls which wouldn't leave the rails anyhow.

(8) Some long-haul shippers, on superficial observation, may fear that the approach to rates proposed by Mr. Tate would put them at a further disadvantage in competition with their shorter-haul rivals. Not so, says Mr. Tate—because these long-haul producers already have suffered their disadvantage, with the shorter-haul traffic now moving by truck and with the railroads forced to rely more and more on their long-haul traffic for necessary revenues (the long hauls paying practically all the percentage rate increases—since, generally speaking, it's only the long-haul which moves by rail).

To the extent that railroads can win back traffic by lower rates on short-hauls now moving by truck (but at rates still running much higher per ton-mile than that charged for long-hauls), the longer-haul producer will benefit because railroad needs for more revenue from long-hauls will tend to be alleviated. In addition, if the railroads' general revenue situation is improved by the recovery of short-haul traffic, they could schedule long-haul rates on a thinner margin of profit and *reduce present rates* when necessary to insure the wider distribution of commodities. This is particularly true with respect to industries whose pricing policies are based on rail rates, even though the greater part of the traffic does not move by rail.

(9) In final analysis, the objective of the proposal is to preserve to the shipping public the "inherent advantages" of railroad transportation, wherever railroads can handle the traffic at lower economic costs than their rivals. It is the declared policy of Congress to protect the public interest in such "inherent advantages," and for this reason it appears that the general principle of the proposal should have the approval of regulatory bodies.

The accompanying charts outline the application of the Tate proposal to the rates on a specific commodity. On this one commodity alone Mr. Tate's research convinces him that the proposal would increase the revenue of Southern carriers on intraterritorial traffic they are *presently* handling by $288,000 per annum—with the prospect of an additional $3,000,000 revenue at a substantial profit ratio to be gained by traffic rediverted from the highway for distances between 100 and 440 miles.

A similar approach ought to be equally effective with a wide range of commodities—in the aggregate holding out an attractive prospect both to the railroads in revenue, and to shippers, in the long run, in lower average rates when the costs of railroad service are spread over an increasing share of the total traffic volume, rather than over a share which is steadily diminishing.

Mr. Tate's proposals have been presented in specific detail to his colleagues in Southern rate territory, and a submittal covering a specific commodity has been placed on the public docket.

The brief report here published aims only to outline the method and the supporting reasoning rather than to reveal practical rate-making details, which have not as yet been thoroughly worked out.

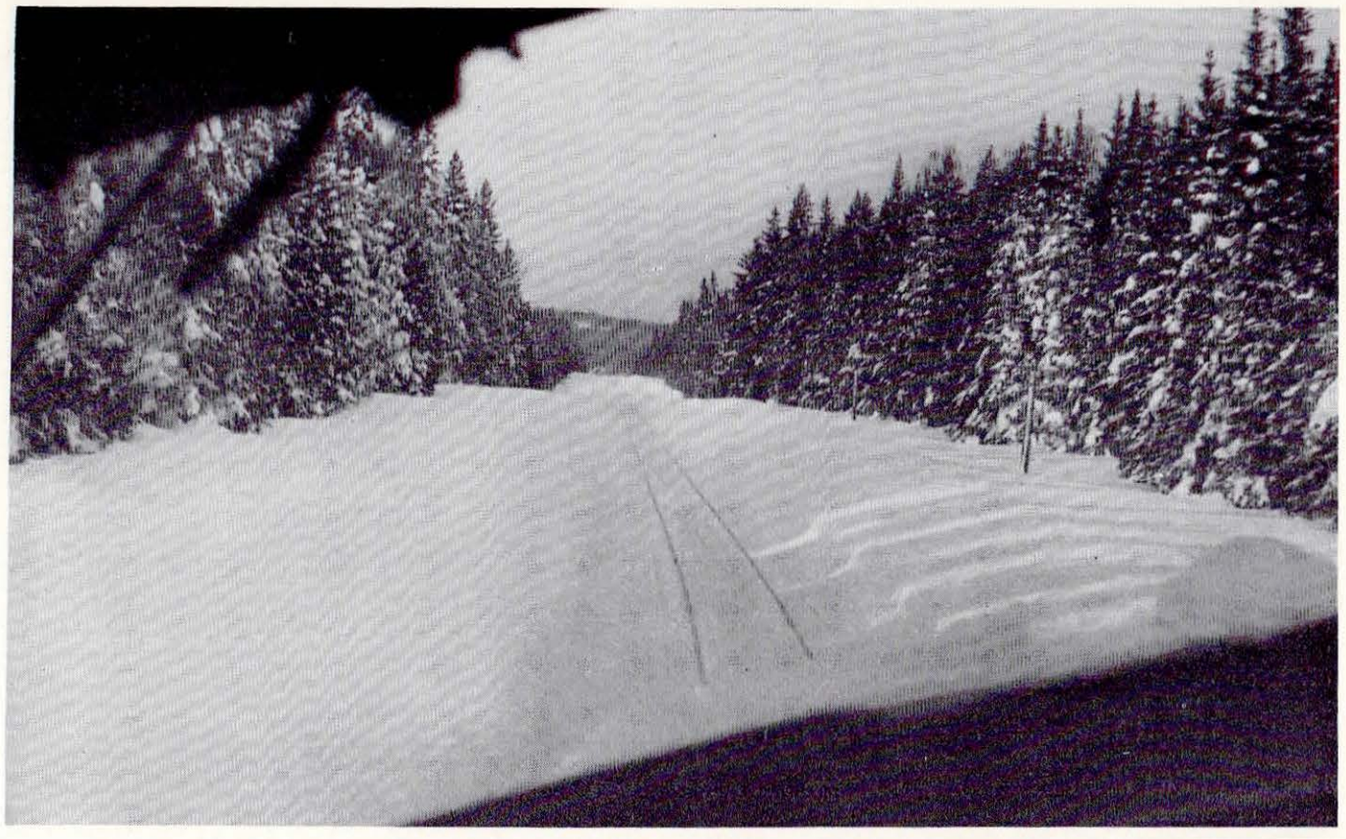
Says Curtis M. Hutchins . . .

"We Can Do Much to Help Ourselves"

The railroad industry has its problems, and very serious problems they are, too. Increases in costs of labor and materials are constantly adding to our costs. We know our industry is not alone in that, but, generally speaking, our revenue is not increasing in pro-

How shippers can help railroads, not only by promoting equitable legislation, but by insisting on a high standard of dependable service, better "sales" practices, and improved pricing policies, was stated fully and frankly to the New England Shippers Advisory Board at Bretton Woods, N.H., on September 18, by Curtis M. Hutchins, president of the Bangor & Aroostook. Those parts of Mr. Hutchins' speech dealing with needed changes in legislation were summarized on page 15 of last week's *Railway Age*; those parts dealing with what shippers and the railroads, themselves, can do to "revitalize" the railroads through better service, are published in full herewith.

Curtis M. Hutchins



"The way to get and hold any piece of transportation business is to give good service at the right price . . . I don't think we can go to our customers and ask for help with our legislative program until we can say that we are doing a bang-up job."

portion, so that our working margin is constantly being whittled down. . . .

"I think every railroad man is conscious of this situation and is necessarily concerned about it for the long pull; it is certainly a sad commentary on our industry that, with the large volume of business being enjoyed by industry as a whole, the return on railroad investment since the war has been only 3.6 per cent on our net assets. This contrasts with well over 10 per cent for most of our manufacturing customers.

A Definite Program

"To one of our dividend-minded B&A stockholders who pressed for dividends at our last annual meeting, I pointed out that our net earnings before income tax last year were 3.6 per cent on net worth; whereas the earnings, before taxes, of 25 miscellaneous companies, whose annual reports happened to be on my desk, averaged a little over 39 per cent. And all of this in a year which was a reasonably good one for our railroad and with the national economy at a very high level. What are we going to do when business falls off and our volume falls off with it? That, at best, is a highly unpleasant prospect. . . .

"The eastern railroads have a definite program which we think will help substantially to revitalize us and give us the freedom of action any business must have to remain vigorous and aggressive."

This program was summarized in a news report of Mr. Hutchins' speech, published on page 15 of the September 29 *Railway Age*. But, the B&A president continued:

"We mustn't expect that all our troubles will be cured by legislation—we can do much to help ourselves."

Speaking directly to shippers, Mr. Hutchins then observed, "We railroads, I think, point with too much pride at the ton-miles we carry so cheaply, point with too much general concern at our condition, ask you [shippers] to help bail us out, and assure you of our continued devotion. We then all agree in principle and all go home the best of friends. The railroads continue to lose volume and nothing much is accomplished in all this complacency.

"Quite frankly, I am here to talk to those of you who are shippers, our customers, and to ask for your help in another way. We certainly need the kind of help that I have already asked for in terms of legislation and national attitude, but I feel we need your help even more in making us do the kind of job we should do to warrant that kind of help.

"Railroad business is built on volume and—let's face it—we are constantly losing to trucks in percentage of the total amount of goods carried in this country. This volume that we continue to lose can make or break us. Frankly, I feel that we are not doing all we can to hold this volume to the rails.

Service—Price—Equipment

"It seems to me the way to get and hold any piece of transportation business is to give good service at the right price and with an adequate amount of the right equipment. By and large, equipment is no longer a principal problem. Our freight car fleet has been built up since the war to a point where an adequate number of cars of adequate quality is certainly within sight. How-

ever, I do feel that the pricing and service side of what it takes to get this business is still short of what might be considered a good, workmanlike job.

"It is too bad that we call our traffic departments 'traffic departments.' Anybody else in business would call them sales departments, with a vice-president in charge of sales charged with the responsibility of getting sufficient volume of business to run his company at a profit.

"Necessarily, much of our traffic departments' time is devoted to the complicated business of promulgating rates and arguing over divisions. However, too little of their time is spent out with the customer trying to find out what it takes to hold the business we now have and to get back part of what we have lost.

"I have seen a lot of business lost to the rails and go to the trucks because meeting the price on that particular movement would mean breaking a rate somewhere else at a temporary loss to the railroad, whereas broad thinking would have concluded that the reduction would have been most profitable in the long run in terms of future business.

"We still have a lot of rates in effect which, if converted to the cost of a truck-mile carrying the same commodity, show a large profit for the trucks and invite diversion of business. It seems to me axiomatic from a business point of view that this tonnage will be lost to us some day if we don't meet this price problem now. And I am sure that if this kind of thinking had prevailed 10 years ago we would have kept a lot of business that we let ourselves be priced out of.

"In this connection I feel there is too much concern on the part of individual traffic departments of individual railroads for their particular share in any piece of business. To put it another way, there is too little willingness to think of our railroad transportation system as a unit, as one family, and too little thought again to the fact that any business kept on the rails helps all of us. In short, there is too little appreciation of the overall sales problem.

Too Few Salesmen

"Specifically, I think we have too few sales people in the field out pushing doorbells and fighting for business. As a consequence, we know too little about what our customer really wants, or when he is thinking of turning to trucks and why, or what we can do to stop him.

"The money we spend on sales effort is certainly way low in proportion to our problem, when compared to industry in general. One example—and I have found a great many like it in the few years in which I have been in the business—involves a large paper mill in the south. This spring the home office of a railroad, located in the same town as the mill, was shocked to find three or four truckloads of paper a day were being trucked some 1,500 miles to a customer because the rail rate was too high. It had been going on for some time and could have been prevented by close sales coverage and some rate adjustment. Now, the truck movement is established and hard to convert.

"Granted the example may be extreme, but we shouldn't lose that kind of business to trucks, and it goes on every day. I insist we should be in much closer touch with our customers and their requirements than we now are. And I will maintain to the bitter end that we will do better with a large volume of business, even if it means a lower unit price, than we will with an increasingly smaller slice of the whole business at an increasingly higher price.

"As to service, I don't think we can go to our customers and ask for help with our legislative program until we can say that we are doing a bang-up job. Speed and dependability of service are big factors in the transportation problem. The trucks by their very nature can beat us in speed. Let's grant it. On the other hand, in the case of most commodities, freight schedules are fast enough to hold the business—provided the shipper can depend on the schedule.

Need for Dependability

"However, in many, many cases our service is not sufficiently dependable. For instance, we took a sample lot of 1,300 cars of potatoes moving from Maine on schedules last winter and found that of the 380 loads moving to New England points only 75 per cent were on schedule. We thought that needed definite effort for improvement. But it was not nearly so bad as the 950 others moving to points outside New England, of which only 18 per cent arrived on the scheduled day.

"It is hard for me to tell my potato shippers, who give us 35,000 to 40,000 cars of potatoes a year, that we have anything like a dependable delivery performance with that kind of record. And I say to you who share in this traffic that holding our potato volume on the rails is just as much your responsibility and concern as mine.

"True, it is our bread and butter and of paramount interest to us. Yet the volume you get from it is something you must keep. You traffic people may get a great deal of satisfaction from obtaining a high percentage of the overhead business of the potato crop from your competitor, but if your operating department doesn't get the cars to destination at the time they are supposed to be there, your railroad not only has done nothing of which it can be proud, but it has contributed to this continual biting away of our combined volume. We of the railroads spend a lot of money in advertising our plight, in asking for sympathy, and in talking about dependability of service. I say that some of this advertising money might be better spent for additional operating expense to make on-time deliveries.

"I think it is unfortunate for the operating officers of any individual road that their cost figures may be compared with the operating costs of other roads to a point where they feel their livelihood or salary level depends upon the individual performance. In my opinion, it is time top management recognized the fact that you can lose dollars in the broad sense many times by failing to spend enough to provide competitive service.

"I have a letter on my desk from the traffic department of one of the large chain stores which is still favoring us with l.c.l. business. Admittedly the business is expensive and difficult to handle, and we are all trying cutting down our loss in this direction. But when movements from Tennessee average 19 days to a point in Maine, 15 days from Ohio and Indiana, 14 days from Virginia and seven days from Massachusetts, I submit to you railroad people it is hard for me to go out and defend you to that customer and help you to keep that business. And I say we should spend a little more money to improve the service. We may not make money on any chain store account, yet if we lose that business you will have to find that much more volume elsewhere to keep from making the loss larger.

"I conclude by turning to our customers in this group to ask for your help in insisting on a better sales and service job from us. The more you insist on a better performance from us the more you will help us to help ourselves. To paraphrase the old adage—by sparing the rod in this case you may be contributing substantially to the spoiling of this child."

At Waterbury a truck-load of freight is on its way to the car which will take it to its destination.

How Goes the Griffin Plan?

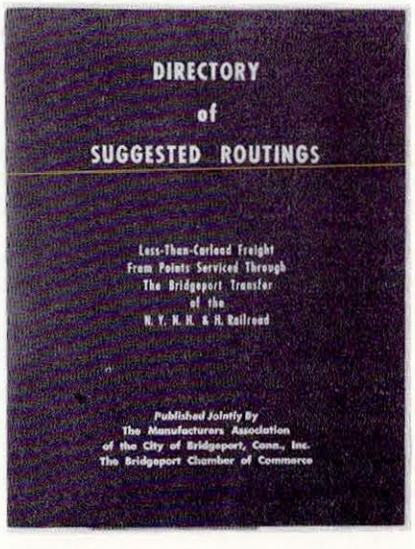
The answer seems to be that it's going pretty well. Not only is the first such operation, begun at Waterbury, Conn., last year, still going strong, but six similar operations have been set up at other points in Connecticut and Rhode Island. This indicates probably that participating shippers are better satisfied with l.c.l. service now than they were before the plan was developed. A study of the New York, New Haven & Hartford's tonnage figures suggests that at Waterbury (1) l.c.l. tonnage originated is, at least, decreasing less rapidly than it is on the New Haven as a whole; and (2) interline l.c.l. tonnage, which is the freight most affected by the Griffin Plan, forwarded from Waterbury probably is not decreasing at all, while interline forwarded l.c.l. from all New Haven stations is falling off.

The accompanying graph depicts the comparative figures in detail. Tonnage figures used to compile the chart include both local and interline freight, since the New Haven, in common with most other roads, does not have its individual stations report separately interline and local forwarded. It is impossible, therefore, to state positively whether or not interline l.c.l. forwarded from Waterbury is holding up. (Waterbury figures are for the city only and do not include tonnage of stations served by Waterbury Transfer.) That interline freight forwarded on the New Haven as a whole is declining is

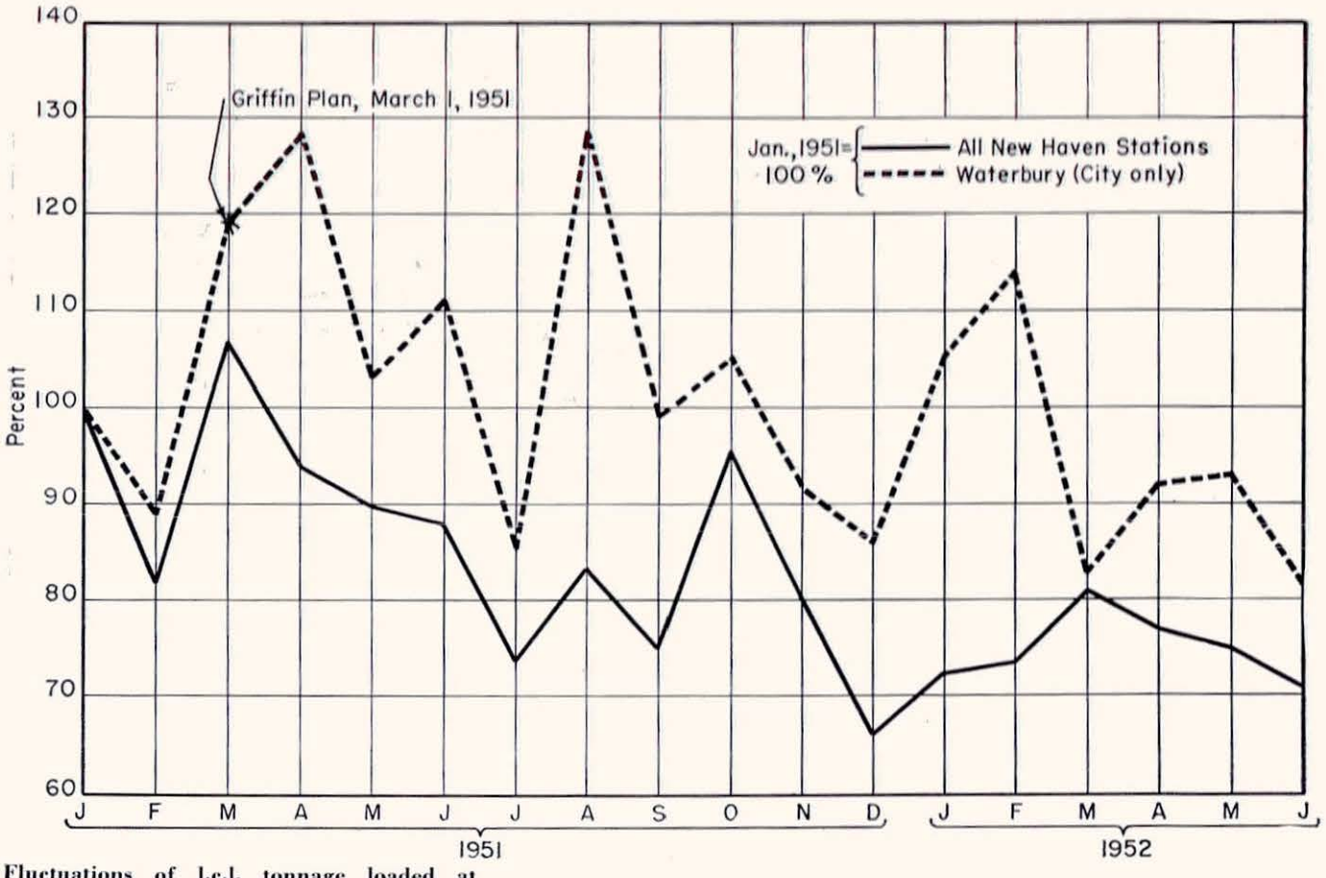
THE GRIFFIN PLAN

The Griffin Plan (described in *Railway Age*, September 3, 1951) is a shipper-conceived plan for channelizing l.c.l. into the best service routes for handling the traffic. Its "inventor," J. B. Griffin, superintendent of traffic of the Scovill Manufacturing Company, of Waterbury, Conn., and his fellow traffic men in Connecticut's Naugatuck Valley, thought that by so channelizing l.c.l. rather than letting it go to destination by a host of routes, they would enable the railroads to make more through cars to destination, or to distant transfers at least. If that were possible, they reasoned, better service should result, the railroad's cost of handling the traffic should be cut and the traffic therefore should be more attractive to the carriers. In their effort to carry out the plan as outlined above the Naugatuck Valley shippers have published a "Suggested Routing Guide" and have asked everyone in the area to adhere to it as closely as possible.

As far as the New York, New Haven & Hartford is concerned, it has arranged for stations in the area around Waterbury to send their tonnage to that station, where as many through cars, or cars to distant transfers, are made as the tonnage justifies.



Cover of the Bridgeport routing guide. Bridgeport began its Griffin Plan type operation on August 1 of this year.



Fluctuations of l.c.l. tonnage loaded at Waterbury and at all New Haven stations.

evident from the figures. However, local movement is declining even faster. Local l.c.l. freight forwarded, which used to represent more than 20 per cent of the l.c.l. originated by the New Haven, has declined to where it is now only about 10.5 per cent of l.c.l. tonnage originated.

While it is not entirely safe to assume that this situation applies at Waterbury to the same degree that it does on the New Haven as a whole, there is no doubt that local tonnage forwarded from Waterbury is falling off. And since total tonnage originated at Waterbury is falling off more slowly than it is on the New Haven as a whole, it is not too unreasonable to assume that the interline tonnage, with which the Waterbury Griffin Plan is mainly concerned, is holding up pretty well.

Began at Waterbury

The Griffin Plan went into operation at Waterbury on March 1, 1951. In the last ten months of 1951 tonnage originated at that station averaged 12 per cent higher per month than the average tonnage originated during the year's first two months. For all stations on the New Haven, average monthly tonnage during the last ten months of the year was down 4 per cent from the average of January and February.

In the first six months of 1952, monthly tonnage originated at Waterbury exactly equaled the average figure for January and February 1951, while tonnage for the New Haven as a whole was down about 17.5 per cent from the January-February '51 average. Also, from March through June 1951, tonnage originated at Waterbury averaged 1.66 per cent of the total of the New Haven's originated tonnage. From July to December, the average increased to 1.71 per cent, and in the first six months of 1952 it was 1.73 per cent.

Using the whole year 1950 as the basis for comparison, in January and February of 1951, New Haven l.c.l. tonnage as a whole was 9.9 per cent above the average for 1950, while for the last ten months of the year the average was down 5.9 per cent from 1950. At Waterbury, average monthly tonnage in January and February of 1951 was 26.3 per cent less than it was in 1950, while from March to December it was down only 0.5 per cent. In the first six months of 1952 Waterbury l.c.l. tonnage remained 26.3 per cent below the 1950 figure.

For the whole New Haven system, in addition to the slump in the last 10 months of 1951, 1952's figures showed a further decrease of 17.7 per cent from the January-February 1951 level, and of 17.3 per cent from the 1950 level. Thus, Waterbury has dropped 10.5 per cent from the March-December 1951 level but is still in the same position when compared with 1950. Whatever the basis of comparison is, New Haven l.c.l. business seems to be much better at Waterbury than it is on the system as a whole.

Car Utilization Still Good

The fear has been expressed in some quarters that under the Griffin Plan there would be a tendency, perhaps, to forward light cars. There is no evidence that the Griffin Plan has done anything to hurt the New Haven's utilization of cars. In August 1952, for example, scheduled interline cars forwarded from Waterbury carried an average of 6.4 tons. Interline cars unscheduled carried 5.7 tons per car. A check with results on several

TABLE 1—GRIFFIN PLAN CONCENTRATION STATIONS

STATION	OPERATION BEGAN
Waterbury, Conn.	March 1, 1951
New Britain, Conn.	Nov. 1, 1951
New Haven, Conn.	Jan. 2, 1952
Hartford, Conn.	Jan. 21, 1952
New London, Conn.	April 14, 1952
Bridgeport, Conn.	Aug. 1, 1952
Providence, R. I.	Oct. 1, 1952

TABLE 2—SHIPPER COMPLIANCE WITH WATERBURY ROUTING GUIDE

City	No. Shipments	Guide-Routed	Per Cent Compliance
A	77	72	93.5
B	100	79	79.0
C	183	164	89.6
D	17	14	82.4
E	29	21	72.4
F	60	40	66.7
G	14	8	57.1
H	105	93	88.6
I	12	8	66.7

TABLE 3—INTERLINE L.C.L. CARS FORWARDED FROM GRIFFIN PLAN STATIONS, AUGUST 1952

Station	Scheduled Cars No. Cars	Scheduled Cars Tons Per Car	Unscheduled Cars No. Cars	Unscheduled Cars Tons Per Car	Per Cent Interline in Unsched. Cars
Waterbury	221	6.4	122	5.7	32.9
New Britain	160	5.3	37	6.2	21.5
New Haven	204	5.1	40	4.4	14.2
Hartford	353	5.5	39	4.2	7.9
New London	60	6.2	23	5.1	23.7
Bridgeport	136	6.6	49	5.1	21.7
TOTAL	1,134	5.8	310	5.3	20.0

other railroads indicates that this figure is not out of line at all, considering the kind of freight offered the railroads these days and the competitive situation they face.

It is of interest, too, that the number of "repeater" cars to stations receiving scheduled cars has declined sharply. During August of this year only 52 such cars were forwarded from the six Griffin Plan concentration stations.

Keeping in mind the average tons per car given above, it is interesting to know how many cars have been forwarded from Waterbury by Griffin Plan routings which went direct to destination, or to a transfer close to destination rather than one immediately west of the Hudson river. In August 1952, for example, 122 such cars were forwarded from Waterbury and 310 (including those from Waterbury) from the six Griffin Plan concentration stations, containing an average of 5.6 tons per car. Some of the points receiving such cars were: Anderson, Ind.; Ann Arbor, Mich.; Anoka, Minn.; Atlanta, Ga.; Cleveland, Ohio (24 in one month); Columbus, Ohio; Fairfield, Ala.; Fond Du Lac, Wis.; Jacksonville, Fla.; Kansas City, Mo.; Royce, N. J.; and San Francisco.

At intervals the New Haven makes a spot check at various stations to see to what degree shippers are adhering to the routings set up in the shipper-made suggested routing guides. The results of these checks are turned over to the railroad's traffic department. Where there are deviations, representatives of the traffic department call on the shippers and suggest that for best service the shipper would be better off if he adhered to the routings in the guides. (Table 2 shows the results of one check of shipments on various days in March and April of stations loading freight to Waterbury for forwarding.)

Under no circumstances are these lists turned over to the local chambers of commerce. Sometimes the traffic man finds there is a good reason why the shipper is not following the plan, such as a consignee-specified routing. If there is no good reason for deviating from the suggested routing, the shipper in most cases agrees to conform. It is interesting to note, too, that some consignees are directing their suppliers in New England to use the suggested routings set up under the various Griffin Plans.

Just this month another Griffin Plan type operation is getting under way at Providence, R.I.

The New Haven also now checks for the shippers the performance of each car forwarded from Griffin Plan concentration stations. Thus the shippers' committee which set up the routings will be able to tell which routes are performing well and which are not. This will be done by the New Haven's car service department, using punched card equipment. The first such report will be for the month of August and will be out sometime this month. This report will show scheduled transit time, number of cars dispatched, the number of on-time arrivals, and the number of times cars were not worked upon day of arrival at destination.

Costs Reduced

Moreover, the Griffin Plan is enabling the New Haven to save money in l.c.l. handling costs. In making Waterbury a "transfer" the railroad was able to divert to Waterbury cars formerly going to another transfer. Handling costs at Waterbury being somewhat lower than at the other transfer, the railroad put some money in its pocket.

All in all, New Haven transportation officers are rather happy about the results of the Griffin Plan at Waterbury. They think, however, although the plan is in effect at several other stations on the railroad, that it is just too early yet to evaluate the results of the operations at the other stations.

Typical trackage on the Katy's Northwestern division. Weight of the rail ranges between 56 and 90 lb.

The Katy Proved It . . .

Diesels Can Operate Over Old Light Rail

Test run on 40-year-old wheat-belt extension in Oklahoma encouraged decision to replace steam power

Written especially for *Railway Age*
By K. H. HANGER
Chief Engineer
Missouri-Kansas-Texas Lines

The economies inherent in the use of diesel-electric locomotives are now being realized on lines laid with extremely light rail on the Missouri-Kansas-Texas. But before starting such use it was necessary to consider the possible effect of this type of power on the track structure, particularly the rail. Following considerable discussion a test run was made with results favoring the use of the diesel power.

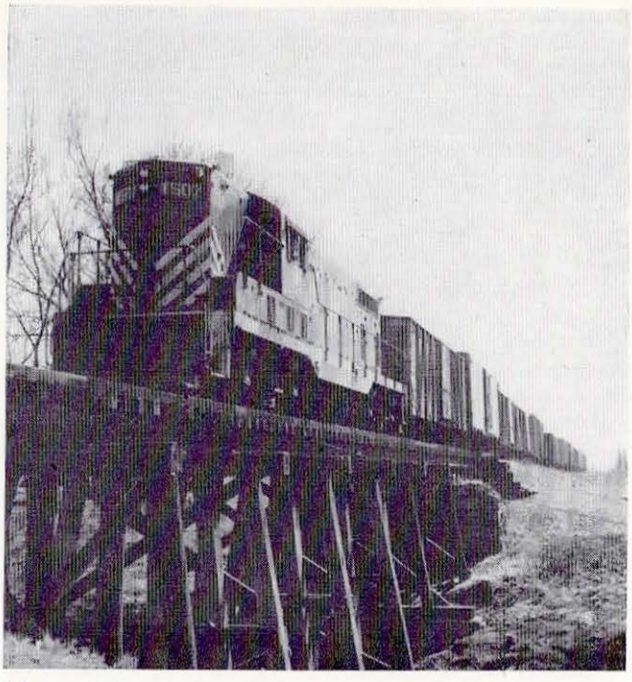
The line first considered in this connection is the Katy's Northwestern division, which extends from Wichita Falls, Tex., up through Oklahoma to Forgan. This line was originally constructed as the Wichita Falls & Northwestern, but upon its completion in 1912 it became part of the Katy lines. As shown in Table 1, there are sections of track on this division that were laid as early as 1906. Table 2 indicates that the rail today is largely of the 60 and 65-lb. sections. All of the rail is at least 40 years old. Only 37 miles of track of the 304 miles comprising the division are ballasted. Treated ties are used. There are approximately 3,110 ties per mile, the spacing being 20.4 in. between centers. Approximately 50 per cent of the track on the division has tie plates.

Daily passenger service is furnished by rail motor cars operating between Wichita Falls and Woodward, Okla., while a daily (except Sunday) fourth class train, No. 83 and 84, handles the freight on this branch.

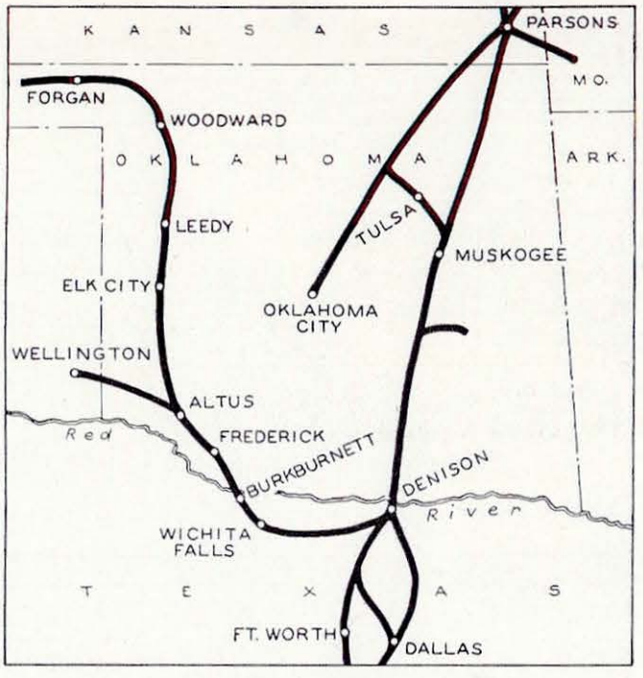
Until February 1951, Mogul-type steam locomotives, with a tractive effort of 31,750 lb. and weighing a total of 330,400 lb., were used on the Northwestern division. The weight on each driving axle was 49,000 lb. Trains up to 2,050 tons were handled by these steam locomotives on this division southbound from Burkburnett to Wichita Falls.

Due to the marked economy realized with diesels over steam locomotives on the main line of the Katy, the application of diesels to the Northwestern division came under serious consideration early in 1951. Because of the lighter weight of rail on this division, axle loading received primary consideration. After much deliberation, a 52,000-lb. axle loading was arbitrarily established.

It was determined on paper that 120-ton diesel locomotives of 1,500 hp., equipped with four-wheel trucks, would successfully handle all freight trains on the Northwestern division. However, the 52,000-lb. limitation precluded use of the 240,000-lb. Electro-Motive 1,500-hp. GP-7 locomotive, which has an axle load of 60,000 lb. Under



The maximum permissible speed for the diesel locomotives is the same as for the steam power formerly used.



The Northwestern division of the Katy extends from Wichita Falls to Forgan.

TABLE 1—SECTIONS OF NORTHWESTERN DIVISION AND YEARS CONSTRUCTED

	Year Constructed	Length in Miles
Wichita Falls to Red River	1906	16.61
Red River to Frederick	1907	32.60
Frederick to Altus	1909	25.60
Altus to Elk City	1910	60.00
Elk City to Leedy	1911	35.80
Leedy to Forgan	1912	133.17

TABLE 2—RAIL WEIGHTS AND MILEAGE OF EACH

Weight of Rail (lb. per yd.)	Length (Miles)
90	.02
85	8.90
66	4.10
65	191.29
60	99.18
56	.29
Total	303.78

TABLE 3—COMPARISON OF TONNAGE RATINGS OF STEAM AND DIESEL LOCOMOTIVES

Territory	500-Class Steam (Ratings in Tons)	1,500-Hp. Diesel (Ratings in Tons)
NORTHBOUND		
Wichita Falls—Altus	1,275	2,200
Altus—Woodward	1,275	2,000
Woodward—Forgan	1,275	2,000
SOUTHBOUND		
Forgan—Woodward	1,275	2,200
Woodward—Altus	1,275	2,000
Altus—Wichita Falls	1,820	2,200

the 52,000-lb. limitation the only diesel locomotive which would qualify from an axle-loading standpoint and still fulfill the operating requirements was a light, six-axle locomotive. But such a locomotive would not be interchangeable with the balance of the Katy's diesel motive power, not to mention the higher cost of such a locomotive.

Here the road was faced with the questions familiar to many railroads in all sections of the country. Could a diesel locomotive with a 60,000-lb. axle loading operate over such light rail without becoming derailed, or fracturing, spreading or turning over the rail? With the constant torque of the traction motors, the short wheelbase of the flexible truck and no side rods or dynamic augment, was the axle-loading limitation as critical as in the case of the steam locomotives?

This question was discussed at great length by the railroad's officers but no general agreement could be reached. Finally, in an effort to settle the point, it was agreed that an actual test run should be made. The occurrence of broken rails or derailments during the test run would obviously mean a negative answer to the question, but if the test was successful, it would mean that restrictions for diesel axle loadings could be modified.

On February 21, 1951, a 1,500-hp. Electro-Motive diesel road-switcher locomotive weighing 241,000 lb. was operated on the Northwestern division, handling local freight train No. 84 from Wichita Falls to Altus under speed restriction. During the run, the locomotive, which has the flexible truck, rode well and had no tendency to nose or sway. Since this was a local freight train making numerous stops, considerable opportunity was afforded to observe the effect of the heavy axle loading on the light rail. The northbound trip was so successful that on the return trip the locomotive was run 5 m.p.h. faster.

After analyzing the results of the test run, it was agreed that the operation of diesel locomotives equipped with flexible trucks and having axle loadings up to 60,000 lb. was permissible on the light rail.

Immediately following this demonstration in February 1951, diesel locomotives were placed in regular service on the Northwestern division. The maximum permissible speed for the present diesel operation is the same as the former speeds for the steam locomotives.

Table 3 gives a comparison of tonnage ratings for the 500-Class steam locomotive and the 1,500-hp. diesel.

Diesel operation on the Northwestern division during the past year has been highly satisfactory, with no broken rails, derailments or other roadway difficulties. As a result the Katy is planning the continued use of the diesel locomotives on this division as well as on the Neosho division, running from Parsons, Kan., to Junction City.

Several B&M time freights, running between Boston and Mechanicville, N. Y., have established near-perfect performance records.

Good Records In Meeting Freight Schedules

Western roads have reduced transit time to and from Pacific coast by one day—Increased emphasis placed on schedule performance

Recent months have seen considerable progress in reducing running time in scheduled railroad freight services, as well as in maintaining schedules as set up. As is revealed in the accompanying tables, some highly significant changes have been made in freight train schedules, especially in the West. Similarly, many creditable on-time records have been reported recently.

The high spot of the year, schedule-wise, was in the West, where railroads effected reduced schedule times in both directions between Pacific Coast points and such important gateways as St. Louis, Chicago and the Twin Cities.

Two years ago various eastern roads had made substantial reductions in transit times, also in both directions, between the Atlantic coast and the Chicago and St. Louis gateways. These changes have resulted in cutting a complete day from the transit time on movements between the Midwestern gateways and the far West.

There is evidence, too, of a pretty good job of maintaining those accelerated schedules.

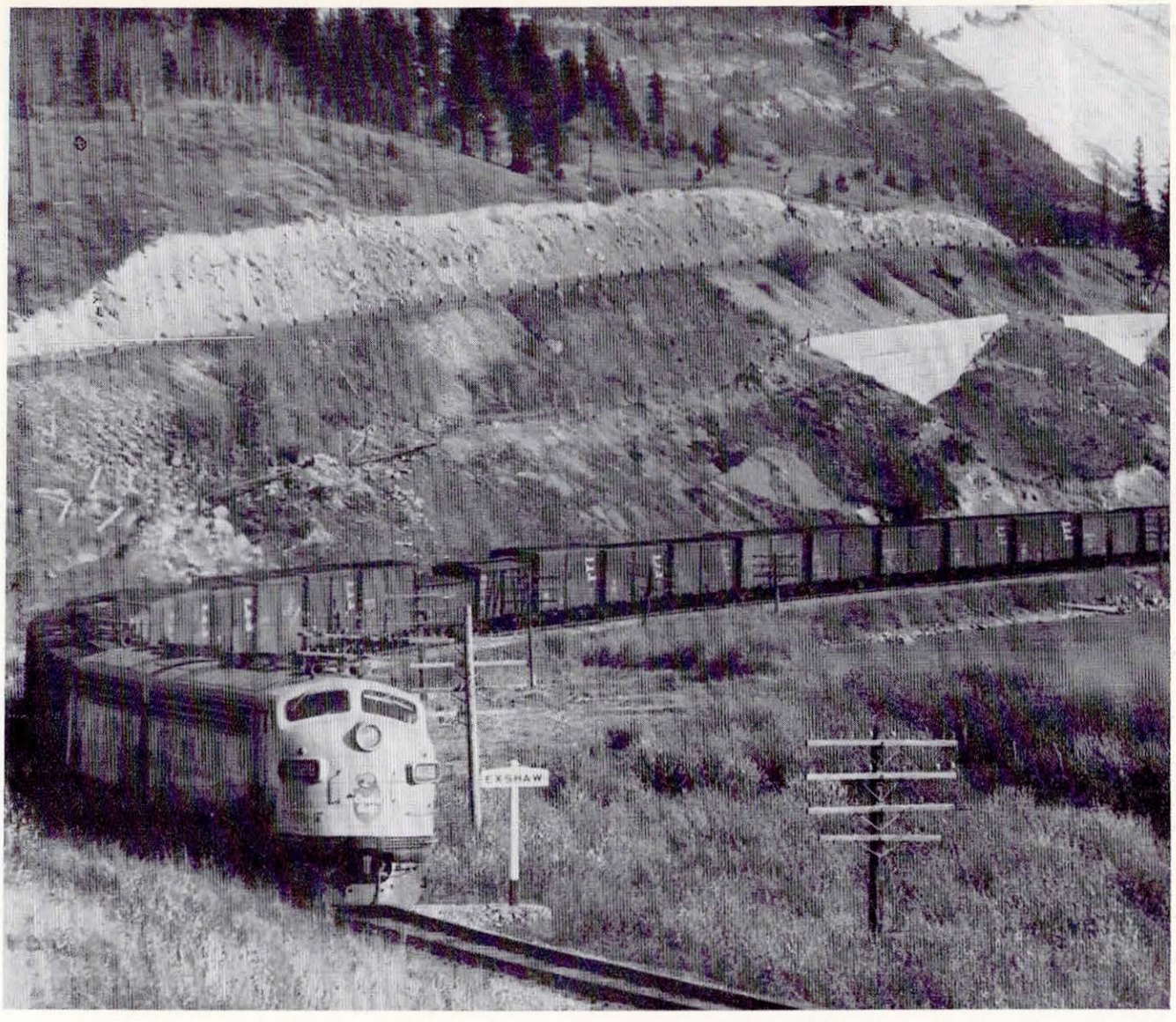
Some Good "On-Time" Records

The data shown in the tables have been supplied by representative railroads especially for *Railway Age*. Some roads report overall performance for their time or symbol freights rather than individual train performance figures. For example, the Canadian Pacific reports that its time freights have been about 90 per cent on time in arrivals at terminals. Similarly, the Rock Island reports that during May, June and July its time freights averaged 83 per cent on time. The Boston & Maine's RB-4 from Mechanicville, N. Y., to Boston is reported as having an almost perfect record, as are BM-3 and BR-1, Boston to Mechanicville trains. The Soo Line states that its symbol trains are "maintaining almost 100 per cent performance."

The Western Pacific cut schedule times of its CFS (westbound) and RT (eastbound) on June 7. From that date until the Tehachapi earthquake made it necessary for the road to take traffic diverted from other lines (and also one of its main-line tunnels, near Pulga, Cal., was destroyed by fire), performance records for the trains were good. For CFS the record was 90 per cent on time. Comparing actual arrival with scheduled time, the performance of RT was not quite so good, but scheduled deliveries to consignees were protected on almost all occasions. In the same period, the WP reports, its fruit blocks operated on schedule 87 per cent of the time.

In the East, the Erie states that its on time performance, as far as schedules are concerned, has not been all it would like, but that its protection of connections and terminal placement obligations has been better than 90 per cent as advertised. In addition to those trains shown in the performance table in these pages, the New York Central reports that its DJ-5, Detroit to Joliet, Ill., DC-1 from Detroit to Indiana Harbor Belt at Gibson, Ind., and DSL-1, Detroit to East St. Louis, Ill., have been making schedule rather consistently. DSL-1 makes delivery at East St. Louis and St. Louis for second day forwarding west and south. The NYC also has scheduled changes in its WB-3 train so as to handle bananas expeditiously from Weehawken, N. J., to Buffalo.

Bananas from Syracuse and west are handled in WB-3 to Selkirk yard (Albany, N. Y.) for connection with the "Pacemaker" (BB-1). This schedule calls for 13-hour service from Weehawken to Buffalo.

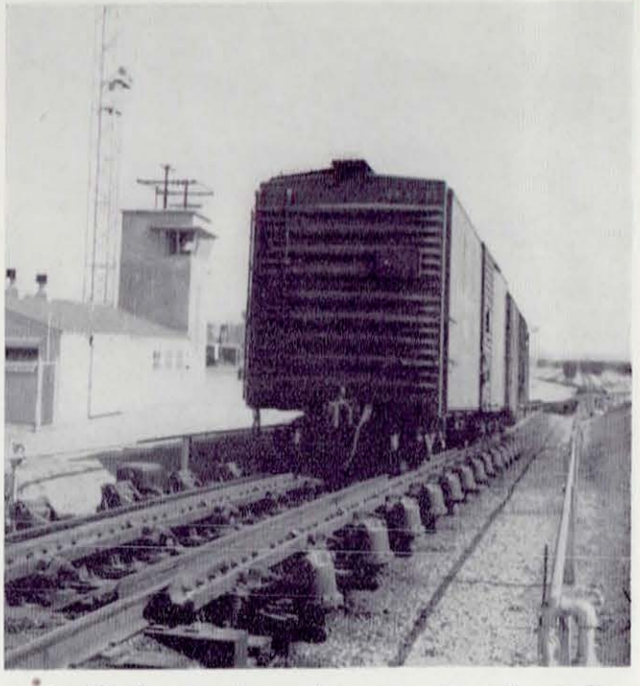


In spite of some difficult operating conditions, Canadian roads are making progress in maintaining freight schedules.

Table 1—Some Recent Schedule Changes

Train No. or Symbol	Origin	Destination	Distance	Old Schedule	New Schedule
CANADIAN NATIONAL					
405	Halifax, N. S.	Montreal	800 mi.	57 hr. 30 min.	49 hr. 45 min.
486	Sarnia, Ont.	Buffalo, N. Y.	190 mi.	7 hr. 30 min.	6 hr. 30 min.
CHICAGO & NORTH WESTERN					
252	Council Bluffs, Iowa	Chicago	470 mi.	20 hr. 00 min.	18 hr. 00 min.
258	Council Bluffs	Chicago	470 mi.	22 hr. 10 min.	16 hr. 30 min.
251	Proviso, Ill.	Council Bluffs	470 mi.	23 hr. 00 min.	17 hr. 30 min.
484	Minneapolis	Chicago	419 mi.	19 hr. 30 min.	16 hr. 00 min.
483	Chicago	Minneapolis	419 mi.	20 hr. 00 min.	17 hr. 00 min.
CHICAGO, BURLINGTON AND QUINCY					
CD	Chicago	Denver	1,008 mi.	45 hr. 00 min.	38 hr. 30 min
61	Chicago	Denver	1,008 mi.	44 hr. 00 min.	39 hr. 31 min.
68	Denver	Chicago	1,008 mi.	38 hr. 00 min.	35 hr. 45 min.
97	Chicago	St. Paul	418 mi.	18 hr. 00 min.	16 hr. 00 min.
88	St. Paul	Chicago	418 mi.	17 hr. 30 min.	14 hr. 30 min.
67	Chicago	Council Bluffs	484 mi.	21 hr. 00 min.	19 hr. 00 min.
CB-68	Council Bluffs	Chicago	484 mi.	20 hr. 29 min.	17 hr. 15 min.
61-79	St. Louis	Laurel, Mont.	1,321 mi.	60 hr. 00 min.	49 hr. 00 min.
80-68	Laurel, Mont.	St. Louis	1,321 mi.	63 hr. 30 min.	54 hr. 00 min.
61	St. Louis	Denver	946 mi.	40 hr. 01 min.	30 hr. 00 min.
66-68	Denver	St. Louis	946 mi.	36 hr. 30 min.	36 hr. 00 min.
71-61	Kansas City	Denver	687 mi.	30 hr. 01 min.	27 hr. 31 min.
67	Kansas City	Denver	687 mi.	35 hr. 00 min.	28 hr. 30 min.
71	Kansas City	Sioux City, Iowa	306 mi.	24 hr. 00 min.	18 hr. 30 min.
74	Kansas City	Chicago	479 mi.	18 hr. 00 min.	16 hr. 00 min.
CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC					
263	Chicago	Tacoma	2,187 mi.	129 hr. 45 min.	106 hr. 45 min.
264	Tacoma	Chicago	2,189 mi.	133 hr. 45 min.	111 hr. 00 min.
63	Chicago	Council Bluffs	465 mi.	19 hr. 00 min.	18 hr. 30 min.
64	Council Bluffs	Chicago	465 mi.	19 hr. 25 min.	15 hr. 45 min.
75	Chicago	Kansas City	482 mi.	19 hr. 15 min.	18 hr. 15 min.
	Milwaukee	Kansas City	523 mi.	25 hr. 15 min.	23 hr. 45 min.
64	Kansas City	Chicago	482 mi.	18 hr. 25 min.	16 hr. 00 min.
	Kansas City	Milwaukee	523 mi.	23 hr. 50 min.	21 hr. 50 min.
CHICAGO, ROCK ISLAND & PACIFIC					
92	Tucumcari, N.M.	Chicago	1,098 mi.	59 hr. 30 min.	48 hr. 45 min.
84-94	Denver	Chicago	1,069 mi.	43 hr. 40 min.	42 hr. 30 min.
2/91	Chicago	Tucumcari	1,098 mi.	49 hr. 15 min.	48 hr. 15 min.
93	Chicago	Houston	1,355 mi.	56 hr. 45 min.	56 hr. 30 min.
98	Houston	Chicago	1,355 mi.	69 hr. 45 min.	63 hr. 30 min.
84-74	Denver	St. Louis	929 mi.	53 hr. 40 min.	44 hr. 30 min.
DENVER & RIO GRANDE WESTERN					
UTE	Denver	Ogden	607 mi.	29 hr. 00 min.	24 hr. 00 min.
61	Pueblo, Colo.	Ogden	663 mi.	29 hr. 59 min.	24 hr. 30 min.
SPF	Ogden	Denver	607 mi.	28 hr. 50 min.	20 hr. 29 min.
SPF	Ogden	Pueblo	663 mi.	28 hr. 50 min.	20 hr. 29 min.
WPF	Salt Lake City	Denver	570 mi.	29 hr. 50 min.	24 hr. 30 min.
WPF	Salt Lake City	Pueblo	626 mi.	29 hr. 50 min.	25 hr. 00 min.
GREAT NORTHERN					
401	Minneapolis	Seattle	1,761 mi.	106 hr. 25 min.	86 hr. 30 min.
401*	Minneapolis	Portland, Ore.	1,809 mi.	106 hr. 25 min.	86 hr. 30 min.
402	Seattle	Minneapolis	1,761 mi.	119 hr. 00 min.	98 hr. 15 min.

An eastbound New York Central freight pulls out of Collinwood (Cleveland), Ohio, yard.

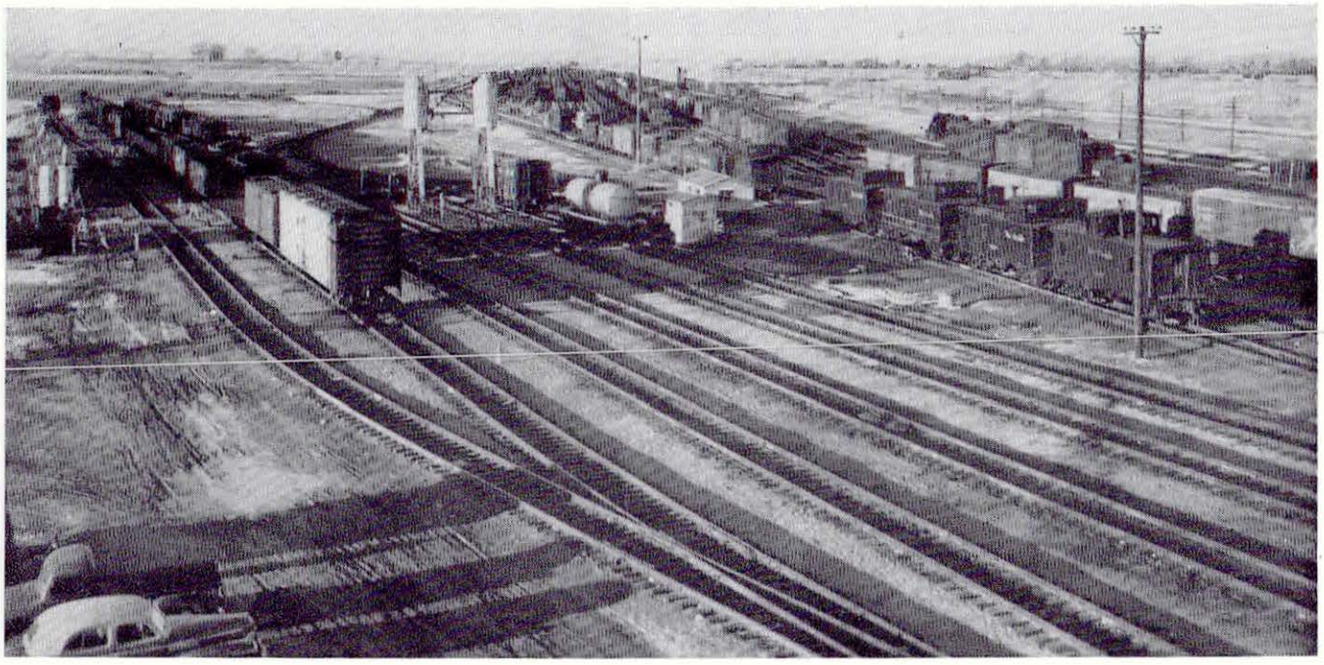


At the SP's Los Angeles yards cars go through retarders. Modern yards are helping railroads get trains out on time.

Train No. or Symbol	Origin	Destination	Distance	Old Schedule	New Schedule
GREAT NORTHERN (Cont.)					
402*	Portland	Minneapolis	1,809 mi.	121 hr. 00 min.	99 hr. 30 min.
435	Billings, Mont.	Seattle	1,074 mi.	58 hr. 15 min.	55 hr. 45 min.
436	Seattle	Billings	1,074 mi.	70 hr. 45 min.	59 hr. 30 min.
413	Superior, Wis.	Minot, N. D.	498 mi.	39 hr. 30 min.	23 hr. 30 min.
414	Minot	Superior	498 mi.	45 hr. 00 min.	29 hr. 00 min.
* Via GN-SP&S					
ILLINOIS CENTRAL					
SC-2	St. Louis	Chicago	294 mi.	13 hr. 00 min.	9 hr. 00 min.
CA-1	Chicago	Albert Lea, Minn.	382 mi.	19 hr. 30 min.	17 hr. 30 min.
CC-4	Council Bluffs, Iowa	Chicago	511 mi.	21 hr. 00 min.	17 hr. 30 min.
NC-2	New Orleans	Chicago	921 mi.	45 hr. 00 min.	39 hr. 40 min.
ILLINOIS TERMINAL					
201	Springfield, Ill.	Edwardsville, Ill.	81 mi.	5 hr. 40 min.	5 hr. 20 min.
203	East Peoria, Ill.	Edwardsville	152 mi.	10 hr. 45 min.	9 hr. 15 min
205	East Peoria	Edwardsville	152 mi.	9 hr. 40 min.	9 hr. 00 min
207	Decatur, Ill.	Edwardsville	120 mi.	7 hr. 10 min.	7 hr. 5 min
202	Edwardsville	East Peoria	152 mi.	9 hr. 35 min.	9 hr. 00 min
NORTHERN PACIFIC					
602	Auburn, Wash.	Minneapolis	1,895 mi.	101 hr. 30 min.	85 hr. 30 min.
603	Minneapolis	Auburn	1,885 mi.	101 hr. 30 min.	82 hr. 35 min.
ST. LOUIS-SAN FRANCISCO					
Frisco-QAP 437-37†	St. Louis	Floydada, Tex.	835 mi.	40 hr. 30 min.	34 hr. 30 min.
QAP-Frisco 30-430-32†	Floydada	St. Louis	835 mi.	39 hr. 00 min.	36 hr. 00 min.
† Via Frisco-Quanah, Acme & Pacific					
SEABOARD AIR LINE					
87-93, 27-75	Richmond, Va.	Jacksonville	635 mi.	32 hr. 00 min.	25 hr. 30 min.
75	Jacksonville	Miami	402 mi.	17 hr. 00 min.	15 hr. 00 min.
74-81, 86-99	Columbus, Ga.	Tampa, Fla.	524 mi.	30 hr. 30 min.	23 hr. 30 min.
78	Hamlet, N. C.	Wilmington, N. C.	111 mi.	8 hr. 00 min.	5 hr. 30 min.
87-75	Richmond	Miami	1,040 mi.	53 hr. 30 min.	45 hr. 00 min.
86-84-87	Columbus	Miami	719 mi.	41 hr. 30 min.	39 hr. 30 min.
27	Richmond	Birmingham	740 mi.	26 hr. 00 min.	25 hr. 30 min.
UNION PACIFIC					
CB	Council Bluffs, Iowa	Los Angeles	1,814 mi.	93 hr. 45 min.	78 hr. 30 min.
MOS	Council Bluffs	Portland, Ore.	1,775 mi.	102 hr. 00 min.	80 hr. 30 min.
KC	Kansas City	Los Angeles	1,928 mi.	98 hr. 44 min.	78 hr. 30 min.
KC	Kansas City	Portland	1,890 mi.	102 hr. 59 min.	80 hr. 30 min.
DP	Denver	Los Angeles	1,398 mi.	76 hr. 45 min.	59 hr. 00 min.
CN	Los Angeles	Council Bluffs	1,814 mi.	99 hr. 20 min.	81 hr. 00 min.
CN	Los Angeles	Kansas City	1,928 mi.	100 hr. 00 min.	81 hr. 30 min.
UX	Los Angeles	Denver	1,398 mi.	74 hr. 00 min.	67 hr. 30 min.
SPX	Portland	Council Bluffs	1,775 mi.	102 hr. 50 min.	85 hr. 59 min.
SPX	Portland	Kansas City	1,890 mi.	103 hr. 30 min.	86 hr. 29 min.
HF	Hinkle, Ore.	Council Bluffs	1,591 mi.	96 hr. 20 min.	82 hr. 00 min.
HF	Hinkle	Kansas City	1,706 mi.	97 hr. 00 min.	82 hr. 30 min.
ABC	Council Bluffs	Los Angeles	1,814 mi.	103 hr. 00 min.	86 hr. 59 min.
AKC	Kansas City	Los Angeles	1,928 mi.	107 hr. 30 min.	86 hr. 59 min.
WESTERN PACIFIC					
CFS	Salt Lake City	Oakland, Cal.	925 mi.	43 hr. 00 min.	34 hr. 00 min.
RT	Salt Lake City	Oakland	925 mi.	51 hr. 00 min.	47 hr. 00 min.
Fruit Block Basic	Sacramento, Cal.	Salt Lake City	794 mi.	46 hr. 00 min.	40 hr. 00 min.
Fruit Block Cutoff	Sacramento	Salt Lake City	794 mi.	34 hr. 00 min.	28 hr. 00 min.

Table 2—Recent Freight-Train Performance

Train	Origin	Destination	Period	Per Cent on Time
ATLANTIC COAST LINE				
210	Jacksonville	Richmond, Va.	1st qr. 1952	96
208	Waycross, Ga.	Birmingham	1st qr. 1952	87
214	Waycross	Atlanta	1st qr. 1952	88
209	Richmond	Jacksonville	1st qr. 1952	88
207	Birmingham	Waycross	45 days*	93
207	Waycross	Jacksonville	45 days*	93
201				
207	Waycross	Tampa, Fla.	45 days*	96
219				
*In July and August, 1952				
CANADIAN NATIONAL				
405	Halifax, N. S.	Montreal	June 1952	63.3
			July 1952	77.4
495	Montreal	Toronto	June 1952	73.3
			July 1952	77.4
486	Sarnia, Ont.	Buffalo	June 1952	93.3
			July 1952	93.5
CHICAGO & NORTH WESTERN				
252	Council Bluffs, Iowa	Chicago	Past year	100
258	Council Bluffs	Chicago	Past year	91
251	Proviso, Ill.	Council Bluffs	Past year	96.8
484	Minneapolis, Minn.	Chicago	Past year	81
483	Chicago	Minneapolis	Past year	62



The Rio Grande is one of the western roads which have slashed many hours off freight schedules. This is a part of the road's North yard at Denver.

Train	Origin	Destination	Period	Per Cent on Time
CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC				
263	Chicago	Seattle	July 1952	95
CLINCHFIELD				
92	Elkhorn City, Ky.	Spartanburg, S. C.	July 1952	74.2
94	Elkhorn City	Spartanburg	July 1952	74.2
93	Spartanburg	Elkhorn City	July 1952	82.8
97	Spartanburg	Elkhorn City	July 1952	90.3
FLORIDA EAST COAST				
343	Jacksonville	Miami	1st 7 mo. 1952	89
345	Jacksonville	Miami	1st 7 mo. 1952	79
346	Miami	Jacksonville	Oct. '51-June '52	100
350	Miami	Jacksonville	Oct. '51-June '52	100
GULF, MOBILE & OHIO				
85	Chicago	E. St. Louis, Ill.	July 1952	87
84-92	E. St. Louis	Chicago	July 1952	90
93	Chicago	Kansas City	July 1952	84
97	Chicago	Kansas City	July 1952	81
92	Kansas City	Chicago	July 1952	90
33	E. St. Louis	New Orleans	July 1952	90
31-131	E. St. Louis	Montgomery, Ala.	July 1952	100
LEHIGH VALLEY				
FFW-1	New York	Buffalo and Suspension Bridge	July 1952	82
JS-1	New York	Suspension Bridge	July 1952	100
JB-1	New York	Buffalo	July 1952	84
CM-1	Coxton, Pa.	Manchester, N.Y.	July 1952	100
MS-1	Manchester	Suspension Bridge	July 1952	100
MB-1	Manchester	Buffalo	July 1952	94
BJ-4	Buffalo	New York	July 1952	90
BP-2	Buffalo and Suspension Bridge	Easton, Pa.	July 1952	84
MISSOURI-KANSAS-TEXAS				
81-281	St. Louis / Kansas City	Houston	July 1952	81
74-274	Houston	St. Louis / Kansas City	July 1952	81
NEW YORK CENTRAL				
CC-2	Cincinnati	Toledo	June 1-Aug. 15, 1952	78.9
SY-2	Chicago	Cincinnati	June 1-Aug. 15, 1952	81.6
CD-8	Chicago	Cincinnati	June 1-Aug. 15, 1952	85.5
CC-3	Cincinnati	Chicago	June 1-Aug. 15, 1952	90.8
NEW YORK, ONTARIO & WESTERN				
NE-6	Coxton, Pa. / Scranton, Pa.	Maybrook, N. Y.	3 months	90
NE-4	Coxton / Scranton	Maybrook	3 months	96

Train	Origin	Destination	Period	Per Cent on Time
NORFOLK & WESTERN				
86	Cincinnati / Columbus	Norfolk	July 1952	97
85	Norfolk	Cincinnati / Columbus	July 1952	83
99	Norfolk	Cincinnati / Columbus	July 1952	83
NORTHERN PACIFIC				
603	Minneapolis	Auburn, Wash.	July 1952	84
READING				
BJ-4	Abrams, Pa.	Jersey City, N. J.	3 months**	90
HCA-2	Harrisburg, Pa.	Catasauqua, Pa.	3 months**	83
CAH-5	Catasauqua	Harrisburg	3 months**	85
NH-2	Newberry Jct., Pa.	Harrisburg	3 months**	90
Adv. PH-3	Philadelphia	Harrisburg	3 months**	91
PA-5	Philadelphia	Allentown, Pa.	3 months**	92
NP-8	Newberry Jct.	Philadelphia	3 months**	

**March, April and May, 1952

ST. LOUIS-SAN FRANCISCO				
37	St. Louis	Dallas / Fort Worth	July 1952	90
SEABOARD AIR LINE				
80	Baldwin, Fla.	Richmond, Va.	1st 6 mo. 1952	92.9
89	Savannah, Ga.	Vidalia, Ga.	1st 6 mo. 1952	97.3
85	Jacksonville	Montgomery, Ala.	1st 6 mo. 1952	98.4
75	Hamlet, N. C.	Miami	1st 6 mo. 1952	83.5
82	Birmingham	Portsmouth, Va.	1st 6 mo. 1952	81.9
81	Montgomery	Savannah	1st 6 mo. 1952	100.0
SOUTHERN PACIFIC				
Manifest Trains				
241	New Orleans	El Paso, Tex.	1st 6 mo. 1952	98.4
243	New Orleans	El Paso	1st 6 mo. 1952	97.3
Motor Special	Corsicana, Tex.	El Paso	1st 6 mo. 1952	95.9
SSE	Los Angeles	El Paso	1st 6 mo. 1952	95.6
EM-900	Roseville, Cal.	Los Angeles	1st 6 mo. 1952	93.8
OVE	San Francisco	Ogden, Utah	1st 6 mo. 1952	90.0
Perishable Blocks				
Colton Fruit Block	El Paso	Corsicana	1st 6 mo. 1952	98.4
Yuma	Yuma, Ariz.	Tucumcari, N. M.	1st 6 mo. 1952	97.7
SSE	El Paso	New Orleans	1st 6 mo. 1952	93.1
Mexican Colton Fruit Block	Nogales, Ariz.	Tucumcari	1st 6 mo. 1952	92.3
Salt River Imperial Valley	El Paso	New Orleans	1st 6 mo. 1952	90.4
Roseville	Roseville	Ogden	1st 6 mo. 1952	90.4
				90.1

Railroading, agriculture and forestry join hands to produce a controlled "forest" which serves all three.

Fourteen years after being planted as seedlings, this towering windbreak will last at least 35 years longer.

Living Snow Fence Piles Up Savings as Well as Snow

Trees, planted on the right-of-way line in 1938, have controlled drifting snow at much less cost than usual type of slatted fence

Written exclusively for *Railway Age*
By T. L. JONES*

Spending only $540 to plant 13,040 seedlings in 1938, and $87.20 to cultivate them for two years, the Chicago & Illinois Midland grew a 2¼-mile snow fence that replaced one of the slat type that had cost $1,924 in 1930. Furthermore, this "natural" snow fence is expected to last 50 years with little maintenance being necessary, whereas a slat-type fence must be replaced every 10 years. To date, maintenance of this windbreak has cost $243, and that was necessary only because the trees were close to a power line and had to be topped to keep them from growing into it.

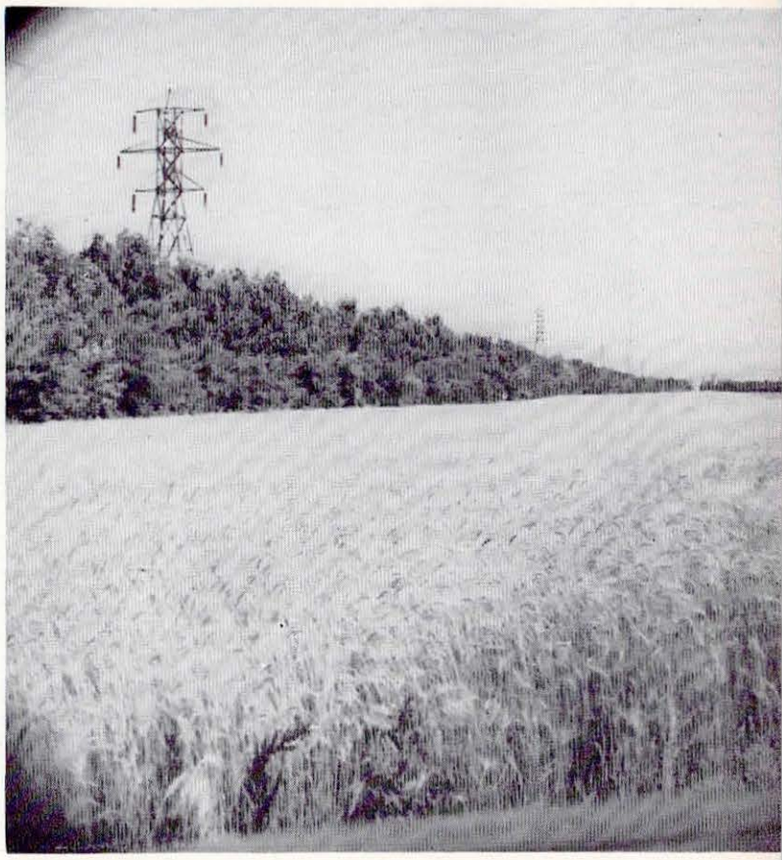
The topography along the C&IM just south of Manito, Ill., where this live snow fence has been planted, is somewhat similar to that of western Nebraska or Kansas and thus presents an ideal situation for the accumulation of bothersome snowdrifts on the track. To the west rise gently sloping sand hills with little or no tree growth. In this vicinity the railway owns a wide right-of-way, the west border being approximately 160 ft. from the center of the track. For about a mile between the right-of-way and the nearest of the hills the ground is relatively level.

Prior to 1938 a typical slat-type snow fence had been fastened to the right-of-way fence, but R. J. Dills, tie and timber agent, who was formerly associated with the United States Forestry Service, envisioned a much more attractive, less costly windbreak that would serve the same purpose.

To provide the type of natural snow fence he visualized, he planted first-year seedling trees in five rows,

* Agricultural agent, Cimco Farm, Havana, Ill., owned and operated by the Chicago & Illinois Midland, for experimental and demonstration purposes.

Cross section of snow fence reveals dense internal growth and different character of trees planted in rows.



Heavy-headed wheat got a good winter start in the lee of the windbreak which protected it, as well as the railroad.

6 ft. apart, with the distances between the trees in each row varying according to the variety. Black locust, planted 6 ft. apart, constituted the west row of the planting. Next came a row of Chinese elm planted five feet apart, followed by a row of green ash at the same interval. Finally, in the two rows closest to the track, Russian olive and wild plum were mixed and planted 3 ft. apart.

The old slat-type snow fence was retained during the next three years to furnish protection for the new trees. Cultivation was carried on for two years to give the young trees a chance to compete with the weeds. After that there was no further cultivation. What was left of the old slatted snow fence was removed at the end of three years. By this time the tallest of the trees had reached a height of 4 to 5 ft., offering an effective protection against drifting snow.

The survival of the seedlings was excellent. The only attention the planting has ever required was a result of the west row being planted a little too close to a high-tension power line. It has had to be topped back because of interference with the lower wires. This has involved some expense which would not have been necessary if there had been no power line. No other trimming has been done. In fact, to make an effective snow fence, the lower branches must be left on the trees.

Although there have been several years in which heavy snowfall and high winds have blocked highways in the vicinity, there has never been snow trouble on the railway at this point since the planting has been effective. This speaks for itself as to the success of this natural snow barrier in fulfilling the purpose for which it was intended.

It is possible to make a comparison of costs of the snow-fence planting in 1938 with the slat type of snow fence which had been completely rebuilt in 1930. There was not too much fluctuation in general price levels between the two dates so that it is felt the cost comparison is reasonably fair.

Cost of constructing and maintaining 2¼ miles (8.15 acres) of natural snow fence:

Plowing land	$ 19.00
13,040 seedlings, in place	521.60
Cultivation (1938-1939)	87.20
Topping trees under power line	242.92
Total expenses to date	$ 870.72
Cost of 2¼ miles of slat fence	$1,924.00
Saving	$1,053.28

On the basis of this comparative cost, back in depression times, we can apply whatever factor is proper in bringing the cost up to date. We know it will cost more to plant a natural snow fence today than it did in 1938, but as the result of activity on the part of state and federal agencies many tree seedlings are now available which were formerly hard to secure. Furthermore, their cost has not increased in proportion to the cost of slatted snow fence. The cost of labor, of course, has increased proportionately—probably doubled—in both cases. On this basis it is estimated that the first cost of a natural snow fence now will run roughly 50 per cent of that of a slat-type snow fence. In addition the natural snow fence will last for many years. In the territory served by the C&IM a natural snow fence should last 50 years or more. A slatted-type snow fence will do well to give 10 years of service—and not that much if it is rolled up in the spring and replaced again in the fall as is the custom on many roads. The old slatted fence near Manito was left in position the year around.

Hot-spray coat being applied outdoors in Buffalo demonstration at freezing temperatures and below.

Hot-Spray Finish Applied Under Varied Conditions

Hot-spray coated under widely varying conditions, from indoor laboratory control to midwinter weather, nearly 600 freight cars so finished in enamel developed by the Sherwin-Williams Company, Cleveland, are currently in regular service on a number of railroads. Steel freight cars, tank cars and hopper cars have been hot-spray painted since the Pullman-Standard Car Manufacturing Company and the Sherwin-Williams Company jointly demonstrated the process last November at Michigan City, Ind.

The initial demonstration in the Pullman-Standard shops was under controlled conditions, but hot-spray enamel has since been successfully applied under divergent conditions. Pullman-Standard used the new process in finishing 250 steel freight cars for the Chicago, Rock Island & Pacific. Ten steel box cars hot sprayed as test cars in 1948 are also Rock Island rolling stock.

Shippers Car Line Corporation employed the hot-spray method to finish tank cars at Milton, Pa., in January. This was done in two shops, one heated and the other unheated.

Five Norfolk & Western steel box cars which were hot sprayed are now in rugged work-a-day operation. The Atlantic Coast Line is hot-spray finishing a number of freight cars experimentally.

One carrier, which now has about 80 hot-spray finished cars in service, painted six freight cars out-of-doors at Buffalo in February; these also are in regular service. The application was carried out in temperatures ranging from 24 to 32 deg. F. The spray equipment consisted of a DeVilbiss MBC gun, with a 7-ft. extension whip. Three Bede unit heaters maintained the spray material at temperatures from 140 to 185 deg. F. at the gun. A circulating pump was employed. Paint was supplied to the heater by means of 40 to 60 lb. air pressure. Atomizing pressure was estimated at 40 to 50 lb.

Each of the 40-ft. steel cars was first primed with chromate primer. In measuring the single hot-spray finishing coat with a Pfund gage, the indicated average thickness of the coat was two mils (thousandths of an inch). This compares with an average of one mil dry film thickness per coat on conventionally finished cars.

The tank cars hot sprayed in January by staff painters at the Shippers Car Line shops also averaged a finish coat of approximately but mils. The hot-spray material was applied indoors but, again for experimental reasons, in the heated and unheated shops. In the unheated shop the temperatures ranged from 40 to 43 deg. F., while out-of-doors it was actually a few degrees warmer. Humidity in this shop was estimated in the high 80's.

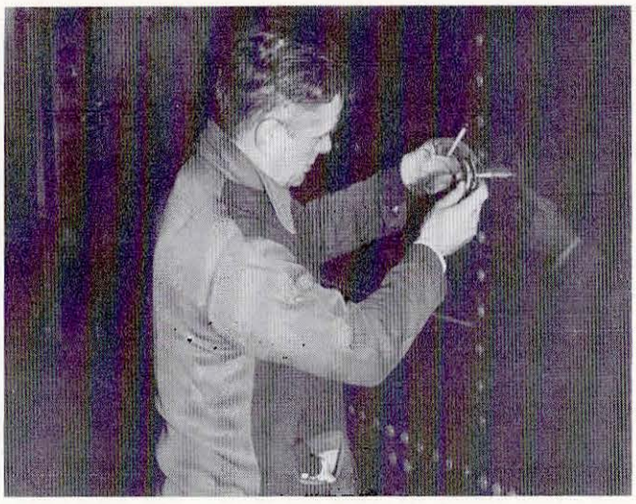
A Southern Pacific car hot-spray coated at San Francisco in February 1952.

In the heated shop the tank cars were dry to stencil in about three hours. In the unheated shop drying to stencil required about six hours. Overnight, however, the surface was tack free and thoroughly dry in spite of visible condensation on some parts of the tanks.

One rebuilt exterior-post car and one new interior-post car were hot sprayed by Southern Pacific painters in February at the Bayshore shops, San Francisco, and at the Sacramento shops. Prime coats were applied to both cars. These demonstrations were out-of-doors, with seasonally mild West Coast temperatures prevailing.

The heating equipment in both cases consisted of two Bede heaters in tandem, each rigged to an apparent potential of 185 deg. F. At San Francisco a pole type extension Binks spray gun was used, equipped with an internal-mix air cap. Best results were obtained with a No. 66 fluid tip in conjunction with this equipment. A pressure tank provided approximately 15 lb. pressure on the material and about 60 lb. atomizing pressure. Equipment in the Sacramento demonstration was the same except for a Binks spray pump, No. A-22, with 16 lb. material pressure, equipment in standard use at the Sacramento shops.

The technical report on the San Francisco demonstration said in part: "The material, when applied at normal speed, was found to have a temperature at the gun of approximately 150 deg. F. This was quite satisfactory and allowed the proper film build without the problem of running or sagging. The wet film thickness, checked by a Pfund gage, was found to average approximately two mils over the entire surface. The average two-coat cold spray, when applied by conventional methods, is approximately one mil. Over-spray was hardly noticeable, being much less than when conventional methods are used.



A hot-spray coat is usually double the thickness of the conventional two-coat spray job.

"The application of one coat of hot-spray material required the same amount of time as the application of one coat of cold-spray material. However, the drying was much more rapid and stencils could be applied in approximately two hours after spraying. This will vary according to weather, humidity, etc. The gloss was increased by at least 15 per cent over two coats of cold-spray freight-car paint application."

At Sacramento the wet film averaged two mils in thickness and, according to the technical report, could be built to a three-mil thickness without sagging. "As this was a new car," the report added, "the surface preparation was better, excellent finish film was noted, and properties with regard to film tightness and gloss were particularly outstanding."

DIESEL REPAIRS . . .

A Small Road's Answer

Ann Arbor houses heavy freight-car repairs and diesel servicing and repairs in one building—Machine shop in old steam shop

Several decades ago the Ann Arbor operated quite an extensive passenger service, and as recently as two years ago it had a motive power roster composed entirely of steam locomotives, with the sole exception of one 40-ton Whitcomb switcher. The road gradually eliminated regular passenger service over the years and it changed over entirely to diesel-electric power within a single month—December 1950—with delivery from American Locomotive-General Electric of fourteen 1,600-hp. road freight A-units, two 1,000-hp. road-switchers and six 660-hp. switching locomotives.

Typical of Many

The road thus faced a situation typical of many lines that have dieselized operations in that while it had more buildings than were needed, the buildings were not well suited to the type of work that had to be done. The Ann Arbor management met the situation, however, in a substantially different manner. A single building is being used to house both the diesel servicing shop and the freight-car heavy repair shop.

The decision to do this was based on several factors. Two of the three principal buildings available were an old steam roundhouse and the old steam backshop, neither of which was suitable for efficient handling of diesel power. The third principal building was the freight-car heavy repair shop, which was 300 ft. long and from 64 to 80 ft. wide. It was suitable for conversion to diesel work, or for continuation in operation handling general freight-car repairs.

This building, at Owosso, Mich., was built large enough to accommodate both freight and passenger cars undergoing general repairs. It was therefore larger than needed to handle freight cars only, as it has been doing since the road discontinued passenger service. Futhermore, since the average freight car in service today is far better than those of twenty or thirty years ago, superior in design and requiring less maintenance, less shop space is needed to maintain today's fleet of Ann Arbor freight cars than was needed at the time the large car shop was built.

Divided Half and Half

The existing car shop building was therefore divided approximately in two by a wall. Half of it is now used for car repairs, and half for diesel servicing. The latter space is used in conjunction with a high-bay section built onto one corner where the wood mill was formerly located.

The original car shop had three tracks. All were left in place in the car section, but two were terminated at the dividing wall. The third extends through to the diesel side, where an automatically operated overhead steel door closes off the opening between the two portions.

The diesel side of the building is 160 ft. long and has the aforementioned track that extends through to the car side. It also has a second track, and both are served by locomotive-floor-level platforms, have depressed floors, lighted pits, etc., in the customary arrangement. The high-bay portion built onto the corner of the low-bay section has two tracks, an overhead crane serving both tracks for lifting out engines and other heavy work, and a drop table capable of handling four-wheel trucks and fitted for dropping a single pair of wheels.

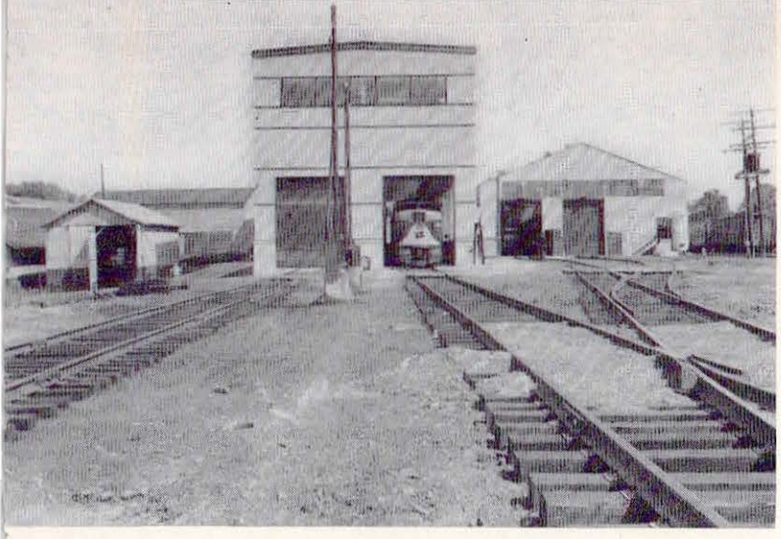
Rooms for cleaning and repairing individual parts are located along one side of the diesel house at platform level. The area under these rooms—the diesel storeroom, the toolroom, the parts repair and air room, the cleaning room and an office on the end near the dividing wall—was not filled in. Instead, this area is used for underplatform storage of such things as the transition-testing motor-generator set, a snow melter, a battery charger, and miscellaneous large and heavy items.

Opening in Floor

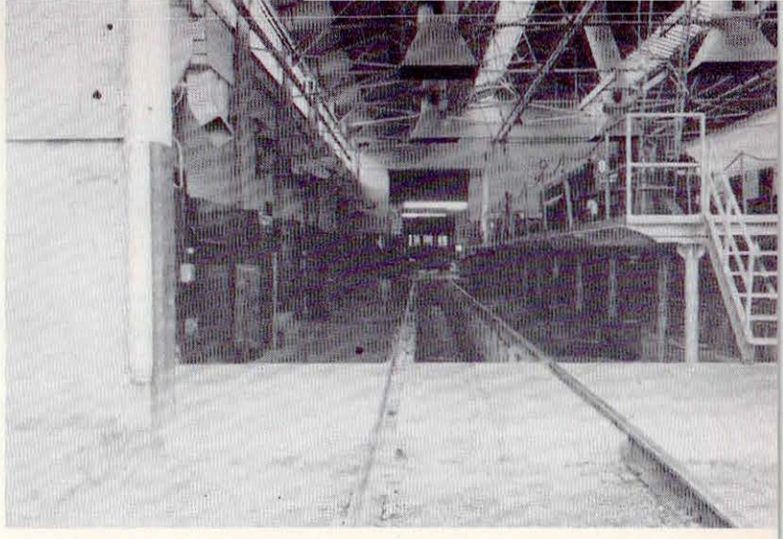
One of the innovations of this shop is a square opening in the floor of the parts repair room and one in the filter cleaning room. These openings are about a yard square and are normally closed with steel covers. When parts are to be moved between either of these rooms and the lower storage area, the cover is raised and parts or stores can be transferred quickly and directly between them and the lower storage area by cranes.

Both the diesel and the car facilities in this building depend to some extent on other repair areas at Owosso. The former steam backshop has not been torn down, nor has much of the machinery been moved. Instead it is used for such operations as turning all mounted car and diesel locomotive wheels, for mounting and demounting diesel locomotive wheels and for miscellaneous machine work on either car or locomotive parts. This building, in addition to its car and locomotive shop operations, maintains all the track motor cars on the Ann Arbor, and it handles some of the heavy repair work for the railroad's marine department.

The wheel shop for the car department is likewise in a separate building. This is a small steel building with a concrete floor surrounded by a concrete storage area for both mounted and single wheels. The building houses equipment for boring wheels, turning journals and wheel seats, and mounting and demounting wheels.

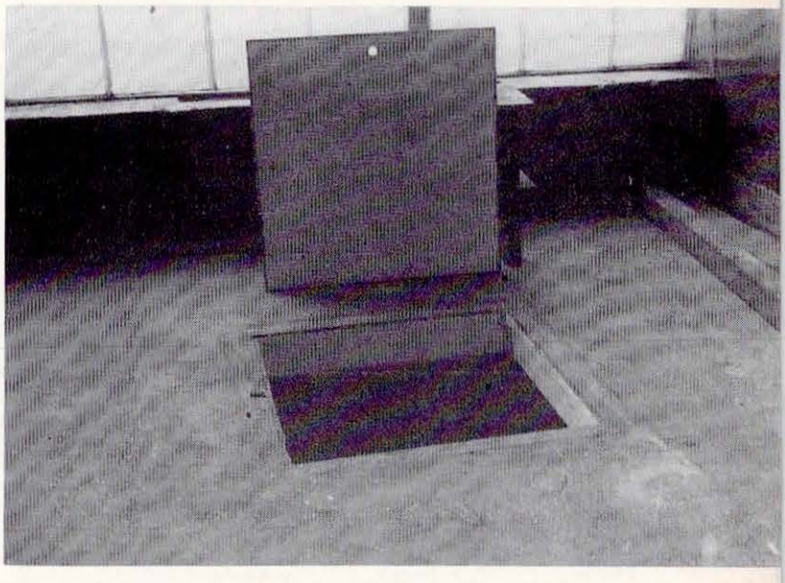


Low-bay building on right houses diesel servicing shop in near half and car repair shop in far half.

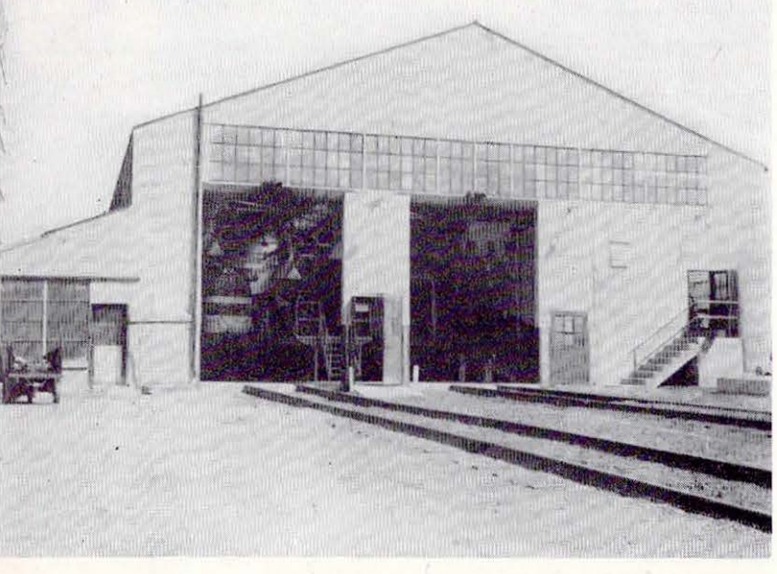


The diesel side has two tracks; the car side has three. One of the tracks extends through from one shop to the other.

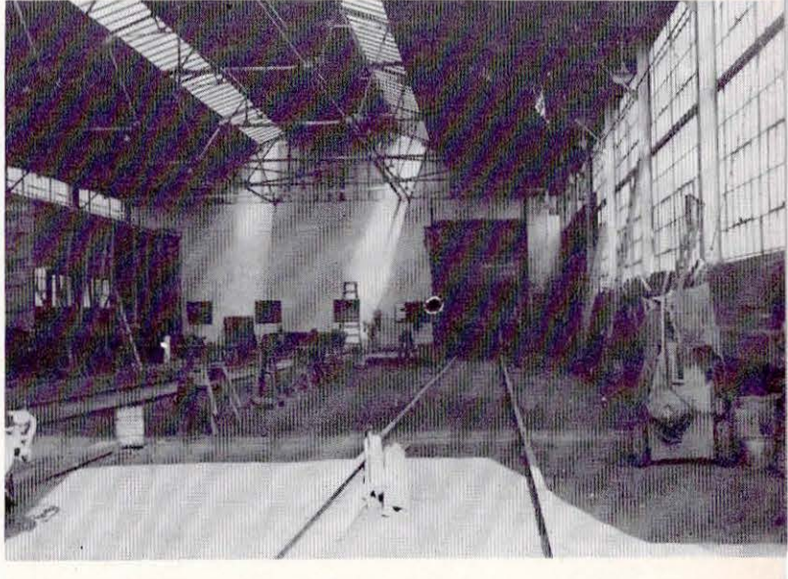
The area under the cleaning and repair rooms was not filled in, but used as a storage space for heavy supplies and shop equipment.



Square openings in the floor of the cleaning and repair rooms permit material to be lifted directly between them and the lower storage area.



The small lights over the doors show if the door is raised enough to clear a locomotive—green if yes; red if no.



Freight-car-repair section looking toward the dividing wall as seen from the outdoor light-repair track.

Unit Load Handling Facilities Increased by Railroads

As traffic pattern changes equipment is shifted; Texas shows greatest growth in year

Since October 1951, when *Railway Age* last published its list of stations equipped to handle unit loads of carload or less-than-carload freight, the number of freight-houses and pier stations in that tabulation has grown from 894 to 941, an increase of slightly more than 5 per cent.

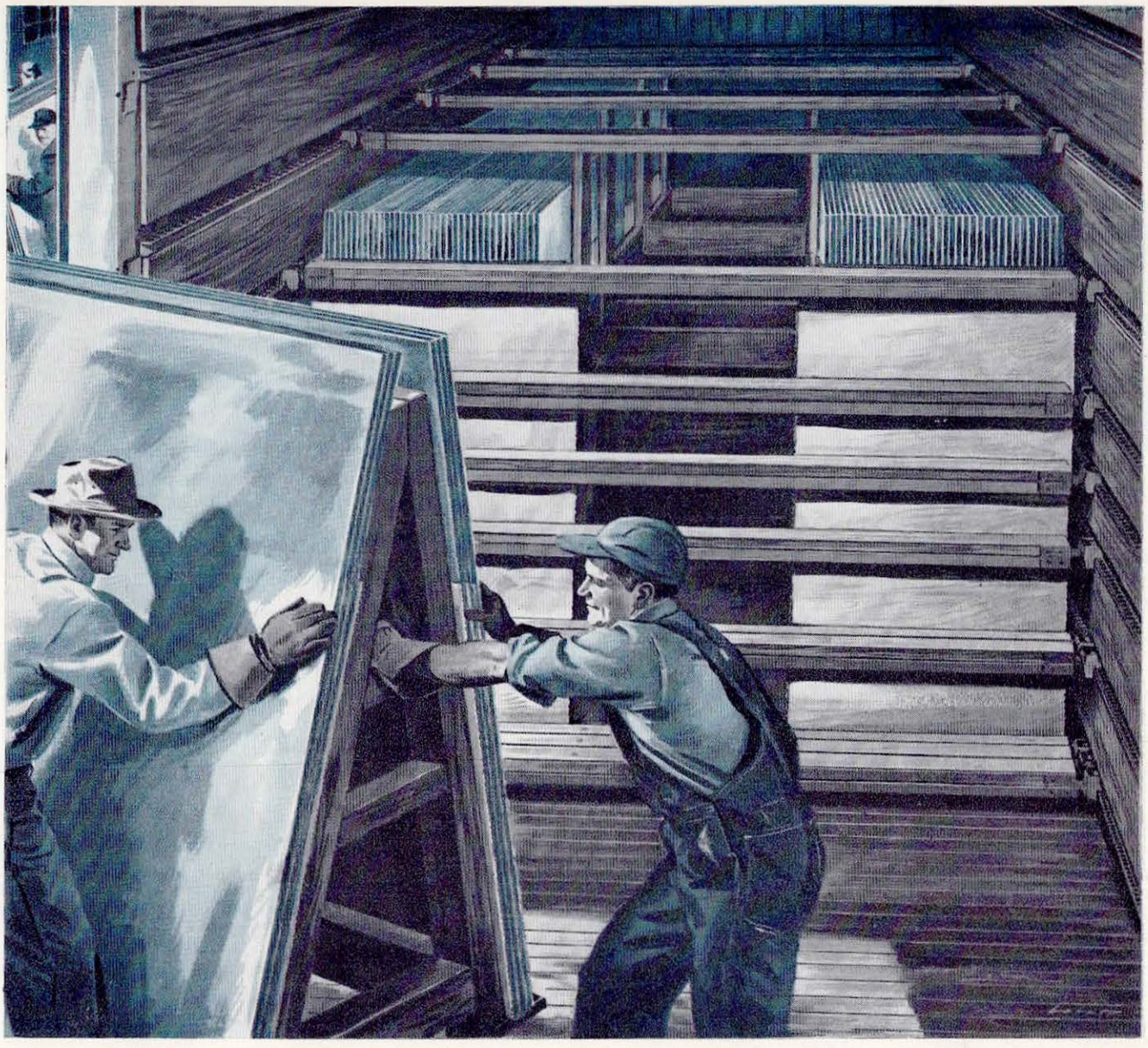
This magazine first compiled this listing in May 1948. During the intervening four and a half years the number of stations equipped with lift trucks has grown by 94.4 per cent.

All states, the District of Columbia and all provinces of Canada now contain at least one station equipped with some form of lift truck. Stations on the list one year sometimes don't appear the following year. With the changing pattern of l.c.l. traffic, with tonnage decreasing or almost vanishing at some stations as conditions fluctuate, the carriers transfer their lift trucks from stations where they are not fully utilized to others where they can be used to greater advantage.

By states, the greatest growth in the number of stations having unit load handling equipment was shown in the past year by Texas. The 1951 tabulation showed 31 Texas stations equipped with lift trucks. This year the total in Texas is 38. Six towns or cities in Ohio were added to the list, as were four in Virginia. Other states showed smaller increases, and in a few cases there were decreases.

It is probable that most of the stations newly equipped with lift trucks have been furnished with the hand hydraulic type. But with the general decline in l.c.l. traffic in the past few years, the fact that the list has grown at all indicates that the railroads still are endeavoring to reduce the cost of handling such traffic, and to handle tonnage in freight-houses as expeditiously as possible.

Station	Railroad	Max. Capy. Lb.
ALABAMA		
Birmingham	L&N	4,000
	SLSF	4,000
	SAL (p)	2,000
	SOU	2,000
Florence	SOU	2,000
Mobile	GM&O	5,000
	L&N (p)	6,000
Montgomery	A&WP-WofA (p)	4,000
	L&N (p)	6,000
ARIZONA		
Nogales	SP	4,000
Phoenix	AT&SF	4,000
	SP	4,000
Tucson	SP	4,000
Winslow	AT&SF	4,000
Yuma	SP	4,000
ARKANSAS		
Fort Smith	MP	4,000
Jonesboro	SLSW (p)	4,000
Little Rock	MP	6,000
	CRI&P	2,000
Paragould	SLSW (p)	4,000
Pine Bluff	SLSW	2,000
Stuttgart	SLSW (p)	4,000
Texarkana	SLSW (p)	4,000
CALIFORNIA		
Alhambra	SP (p)	4,000
Auburn	SP	4,000
Bakersfield	SP	4,000
	AT&SF	4,000
Barstow	AT&SF	4,000
Calistoga	SP (p)	4,000
Chico	SP	4,000
Colton	SP	4,000
Dunsmuir	SP	4,000
El Centro	SP (p)	4,000
Eureka	NWP	4,000
Fortuna	NWP	4,000
Fresno	AT&SF	4,000
	SP	4,000
Long Beach	SP (p)	4,000
Los Angeles	AT&SF	4,000
	REA	6,000
	SP	4,000
	UP	4,000
Marysville	SP	4,000
Modesto	SP	4,000
Oakland	AT&SF	4,000
	SP	4,000
	WP	2,000
Orland	SP (p)	4,000
Oxnard	SP	2,000
Palo Alto	SP (p)	4,000
Pasadena	SP (p)	4,000
Petaluma	NWP	4,000
Placerville	SP	4,000
Red Bluff	SP	4,000
Redding	SP	4,000
Riverside	SP (p)	4,000
Sacramento	REA	4,000
	SP	4,000
	WP	2,000
Salinas	SP (p)	4,000
San Diego	AT&SF	4,000
	REA	4,000
San Francisco	AT&SF	4,000
	REA	4,000
	SP	4,000
	WP	6,000
(Pier 3)	NWP	4,000
San Jose	SP	4,000
	WP	2,000
San Luis Obispo	SP (p)	3,500
San Rafael	NWP	4,000
Santa Ana	SP (p)	4,000
Santa Rosa	NWP (p)	4,000
Sebastopol	NWP	4,000
Stockton	AT&SF	4,000
	SP	4,000
	WP	2,000
Suisun-Fairfield	SP	4,000
Tracy	SP	4,000
Ukiah	NWP	4,000
Vallejo	SP (p)	4,000
Ventura	SP (p)	3,500
Watsonville	SP (p)	3,500
Willits	NWP	4,000
COLORADO		
Denver	AT&SF	4,000
	CB&Q	4,000
	D&RGW-CRI&P	4,000
	REA	4,000
	UP	4,000
La Junta	AT&SF	4,000
Pueblo	AT&SF	4,000
	D&RGW-MP	4,000
CONNECTICUT		
Bridgeport	NYNH&H	4,000
	REA	4,000
Cedar Hill Tfr.	NYNH&H	4,000
Stamford	NYNH&H	2,000
Waterbury	NYNH&H	4,000
DELAWARE		
Wilmington	PRR (p)	4,000
DISTRICT OF COLUMBIA		
Washington	B&O	6,000
	PRR (p)	3,000
	REA	4,000
FLORIDA		
Gainesville	SAL (p)	4,000
Jacksonville	ACL	2,000
	REA	4,000
	SAL	4,000
Miami	FEC	4,000
	SAL	2,000
Orlando	ACL (p)	2,000
	SAL (p)	2,000
Pensacola	L&N (p)	6,000
	SLSF (p)	6,000
St. Petersburg	SAL (p)	2,000
Tallahassee	SAL (p)	2,000
Tampa	ACL (p)	6,000
	SAL (p)	4,000
GEORGIA		
Athens	SAL (p)	2,000
Atlanta	A&WP-GA-L&N (p)	2,000
	ACL (p)	2,000
	CGA (p)	4,000
	NC&SL	3,000
	REA	4,000
	SAL	4,000
	SOU	2,000
Chamblee	SOU (p)	4,000
Columbus	CGA	5,000
	SAL (p)	2,000
Decatur	GA (p)	2,000
Macon	CGA (p)	4,000
	REA	4,000
Savannah	ACL	5,000
(piers)	CGA	6,000
	SAL	2,000
Waycross Tfr.	ACL	2,000
IDAHO		
Boise	UP	2,500
Pocatello	UP	4,000
ILLINOIS		
Bloomington	NYC	4,000
Champaign	NYC	4,000
Chicago (Corwith)	AT&SF	4,000
(Forest Hills)	B&O	4,000
(House No. 1)	B&O	4,000
(House No. 2)	B&O	4,000
(House No. 6)	B&O	4,000
	C&EI	8,000



50 TONS OF GLASS . . . LOCKED IN FOR THE LONG HAUL

Because the Evans DF Loader *locks in* even the most fragile lading—like the 25,000 pounds of glass in each corner of the car above—it prevents costly damage without recourse to tediously fitted dunnage.

By reducing damage to the absolute minimum, the DF Loader—the Damage Free, Dunnage Free Loader—saves millions in damage claims and in the costs of handling them. By enabling cars to be loaded faster, by simplifying car cleaning, it speeds turn-arounds. By letting shippers load cars heavier—easier—it boosts revenue ton-miles and helps ease the box car shortage. Only the DF Loader *secures* lading firmly . . . *supports* it where necessary . . . *separates* it into easily anchored sections. It is a permanent part of box cars now available from 24 Class I railroads. To learn how your organization can put this modern equipment to the most profitable use, consult *Evans Products Company, Railroad Loading & Equipment Division, Dept. E-410, Plymouth, Michigan.*

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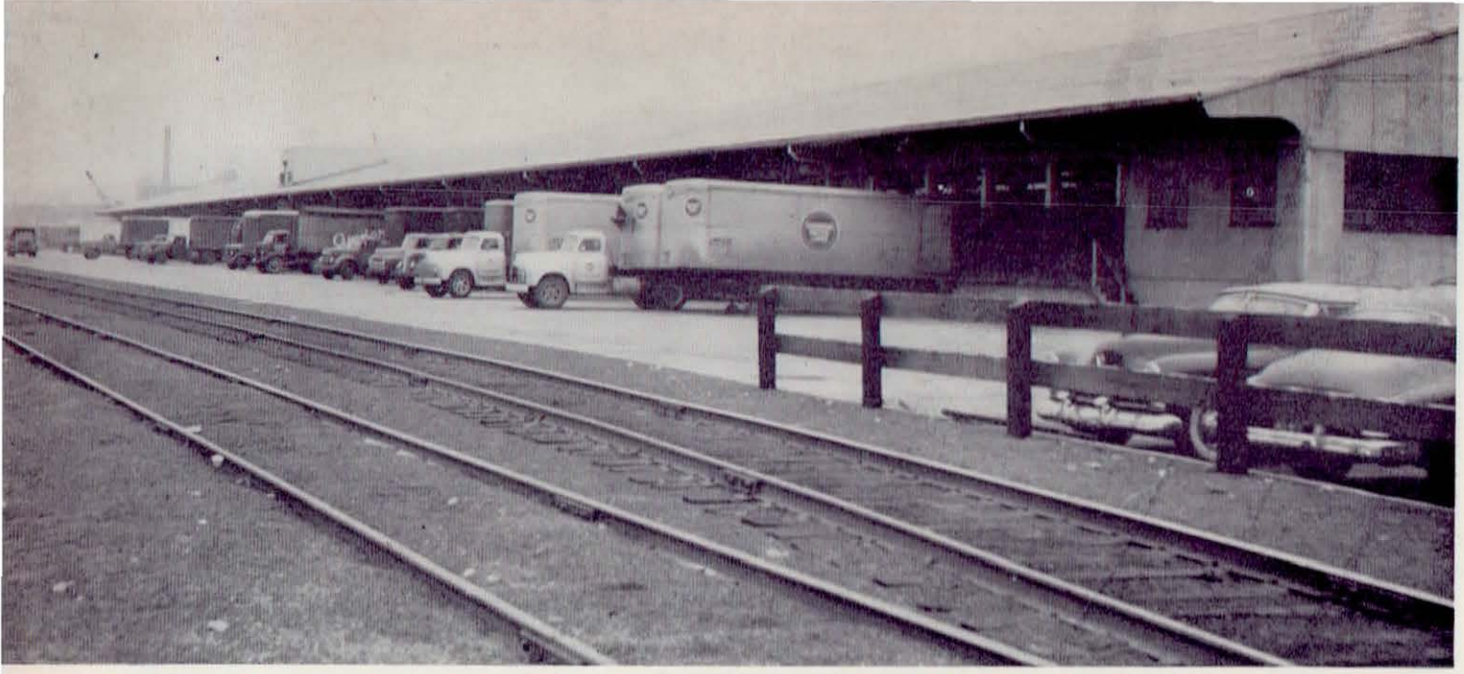
EVANS LOADING AND RAILROAD EQUIPMENT

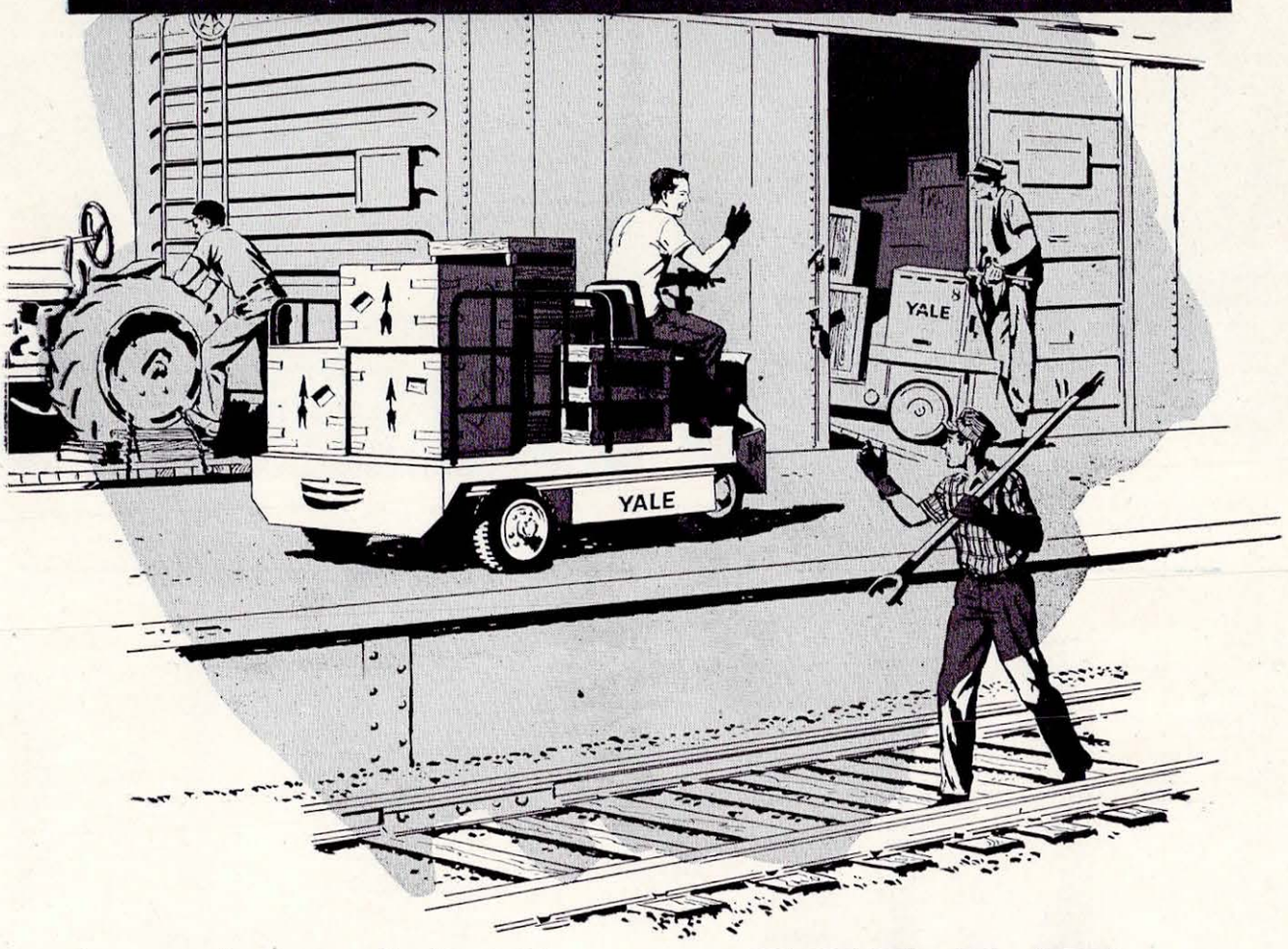
RETURNS REVENUE TO THE RAILS



Delivery and substituted truck service units wait for a load.

Station	Railroad	Max. Capy. Lb.
ILLINOIS—(Cont.)		
Chicago (Cont.)		
(16th St.)	C&NW	4,000
	C&O (CD)	4,000
	C&O (PM)	6,000
	CB&Q	5,000
(Division St.)	CMSP&P	2,000
(Union St.)	CMSP&P	4,000
(Galewood)	CMSP&P	4,000
	CRI&P	4,000
	Erie	4,000
	GM&O	5,000
	GTW	4,000
	IC	4,000
(Polk St.)	NYC	6,000
	NYC&SL	4,000
(Polk St.)	PRR	6,000
(Halstead St.)	PRR	6,000
(18th St.)	PRR	2,000
	REA	10,000
	Wabash	4,000
Chicago Heights	C&EI	6,000
Danville	C&EI	4,000
	NYC	4,000
Decatur	Wabash (p)	6,000
East St. Louis	B&O	6,000
	GM&O	5,000
	IC	4,000
	L&N	4,000
	NYC	4,000
	NYC&SL	
	PRR	6,000
	Wabash	4,000
Galesburg	CB&Q	4,000
Harrisburg	NYC	4,000
Joliet	AT&SF	4,000
Kankakee	NYC (p)	4,000
Mattoon	NYC (p)	4,000
Moline	CB&Q	4,000
Morrison	C&NW	2,000
Mt. Carmel	NYC	4,000
Quincy	CB&Q	4,000
Rock Island	CRI&P (p)	2,000
Rockford	IC	4,000
Shelbyville	NYC	4,000
Streator	AT&SF	4,000
INDIANA		
Anderson	NYC	4,000
	PRR	6,000
Aurora	NYC	4,000
Batesville	NYC	4,000
Columbus	NYC	4,000
Crawfordsville	NYC	4,000
Elkhart	NYC	4,000
Evansville	L&N (p)	6,000
	NYC	4,000
Fort Wayne	NYC	4,000
	NYC&SL	
	PRR	6,000
	Wabash (p)	6,000
Gary	PRR	4,000
Gibson	NYC	4,000
Goshen	NYC	4,000
Greensburg	NYC	4,000
Huntington	Erie	4,000
Indianapolis	B&O	6,000
	NYC	4,000
	PRR	6,000
	REA	4,000
Kokomo	PRR	6,000
Lafayette	NYC	4,000
LaPorte	NYC	4,000
Lawrenceburg	NYC	4,000
Logansport	PRR	4,000
Marion	NYC	4,000
Michigan City	NYC&SL	
Mishawaka	GTW	4,000
	NYC	4,000
Muncie	NYC	4,000
	NYC&SL	
New Castle	NYC	4,000
Richmond	PRR	6,000
Shelbyville	NYC	4,000
South Bend	GTW	4,000
	NYC	4,000
	PRR	4,000
Terre Haute	NYC	4,000
	PRR (p)	6,000
Wabash	NYC	4,000
Winchester	NYC	4,000
IOWA		
Davenport	CRI&P	2,000
Des Moines	CRI&P	2,000
Fort Madison	AT&SF	4,000
Sioux City	GN	2,000
KANSAS		
Atchison	AT&SF	4,000
	MP	6,000
Dodge City	AT&SF	4,000
Emporia	AT&SF	4,000
Garden City	AT&SF	4,000
Hutchison	AT&SF	4,000
Newton	AT&SF	4,000
Salina	UP (p)	2,000
Topeka	AT&SF	4,000
	REA	4,000
Wichita	AT&SF	4,000
	MP	4,000
KENTUCKY		
Corbin	L&N (p)	6,000
Harlan	L&N (p)	6,000
Hazard	L&N (p)	6,000
Hopkinsville	IC	4,000
Lexington	L&N (p)	6,000
Louisville	B&O (p)	5,000
	L&N	4,000
	NYC	4,000
	PRR (p)	3,000
Paducah	IC (p)	4,000
LOUISIANA		
Alexandria	MP	6,000
Lafayette	T&NO	2,000
Monroe	MP	4,000
New Orleans (Piers)	IC	4,000
(Frt. sta.)	IC	2,000
	KCS-L&A	2,000
(Piers)	L&N	4,000
	MP	6,000
	REA	4,000
	SOU	2,000
	T&NO	4,000
	T&P	4,000
Shreveport	KCS-L&A	2,000
	SLSW (p)	4,000
	T&P	2,000
MAINE		
Augusta	MC	2,000
Bangor	MC	2,000
Eastport	MC	2,000
Portland	B&M	2,000
	MC	2,000
MARYLAND		
Baltimore		
(Camden Sta.)	B&O	6,000
(Canton Sta. Lighters)	PRR	4,000
(President Sta.)	PRR	4,000
Cumberland	B&O	6,000
Hagerstown	PRR	6,000
Locust Point	B&O	6,000
Port Covington Term.	WM	6,500
MASSACHUSETTS		
Boston	B&M	2,000
(Kneeland st.)	NYC (B&A)	6,000
(Piers)	NYNH&H	4,000
	REA	4,000
Chelsea	B&M	2,000
East Cambridge	NYC (B&A)	4,000
Everett	B&M	2,000
Fall River	NYNH&H	4,000
Fitchburg	B&M	2,000
Framingham	NYC (B&A)	4,000
Gloucester	B&M	2,000
Holyoke	B&M	2,000
Ipswich	B&M	2,000
Lawrence	B&M	2,000
Lowell	B&M	2,000
Lynn	B&M	2,000
Malden	B&M	2,000
North Grafton	NYC (B&A)	4,000
Palmer	NYC (B&A)	4,000
Pittsfield	NYC (B&A) (p)	4,000
Salem	B&M	2,000
Springfield	NYC (B&A)	4,000
	NYNH&H	4,000
Waltham	B&M	2,000
Watertown	B&M	2,000
West Brookfield	NYC (B&A)	4,000
Worcester	NYC (B&A)	4,000
	NYNH&H	4,000
MICHIGAN		
Adrian	NYC	4,000
Alma	C&O (PM)	6,000
Ann Arbor	NYC (p)	4,000
Battle Creek	NYC	3,500
	GTW	4,000
Bay City	D&M	2,000
	C&O (PM)	6,000
	NYC	4,000
Benton Harbor	C&O (PM)	6,000
Big Rapids	PRR	6,000
Cadillac	PRR	6,000
Detroit	C&O (PM)	6,000
	GTW	4,000
	NYC	6,000
	PRR	4,000
	REA	6,000
	Wabash	6,000
Durand	GTW	4,000
Flint	C&O (PM)	6,000
	GTW	4,000
Grand Rapids	C&O (PM)	6,000
	GTW	4,000
	NYC	4,000
	PRR	6,000
Iona	GTW	4,000
Jackson	NYC	4,000
Kalamazoo	GTW	4,000
	NYC (p)	4,000
	PRR (p)	5,000
Lansing	C&O (PM)	6,000
	GTW	4,000
	NYC	4,000
Ludington	C&O (PM)	6,000

YALE speeds the loading and unloading of L.C.L. shipments



IT'S NO SECRET that the costs of handling L.C.L. shipments are steadily mounting. Large, bulky loads and innumerable small, odd-shaped packages present handling problems that just can't be solved economically with old-fashioned equipment and methods.

That's why you . . . like railroad men everywhere . . . will profit by investigating the economy and efficiency of YALE equipment and service. Whatever your problem . . . loading and unloading L.C.L. shipments, handling stores or transferring baggage . . . you'll find a YALE industrial lift truck can do the job easier, faster and safer . . . with fewer men. They're available in capacities from 1,000 to 10,000 pounds with gas, Diesel, electric or gas-electric power.

Call your nearest YALE railroad representative. He's listed in the classified directory under Trucks, Industrial . . . or, fill out and mail the attached coupon today.

YALE

MATERIALS HANDLING EQUIPMENT

YALE is a registered trade mark of The Yale & Towne Mfg. Co.

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Co., Dept. 4810
Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

How can YALE Trucks do more — save money — for me?

☐ Please send me free copy of *The Picture Story of Yale Materials Handling Equipment.*

☐ Please have your local representative call.

Company_____

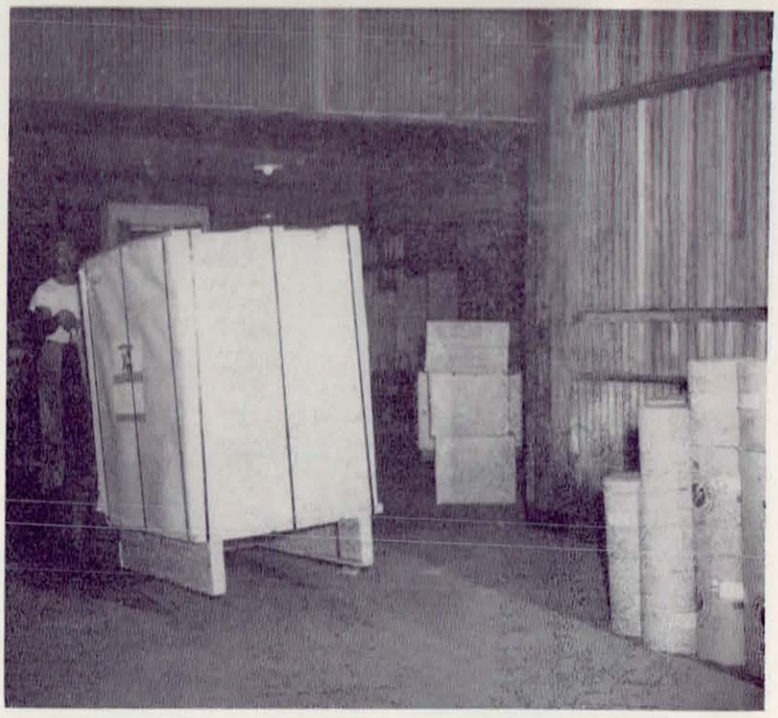
Name_____ Title_____

Street_____ City_____ State_____

In Canada write: Yale & Towne Mfg. Co., Box 337—Postal Sta. "A", Toronto

Gas and Electric Industrial Trucks • *Worksavers* • Hand Trucks • Hand and Electric Hoists • Pul-Lifts

At the Canadian National's Edmonton, Alta., freighthouse a lift truck delivers a pallet-load of merchandise.



At pier 68 in New York the Lackawanna's lift trucks handle a lot of paper on skids.

Station	Railroad	Max. Capy. Lb.
MICHIGAN (Cont.)		
Marquette	DSS&A	3,000
Monroe	NYC	4,000
Mt. Clemens	GTW	4,000
Muskegon	C&O (PM)	6,000
	GTW	4,000
Niles	NYC	4,000
Owosso	GTW	4,000
	NYC	4,000
Petoskey	PRR	6,000
Port Huron	GTW	4,000
Saginaw	C&O (PM)	6,000
	GTW	4,000
	NYC	4,000
St. Johns	GTW	4,000
Sault Ste. Marie	DSS&A (p)	1,000
Sturgis	NYC (p)	4,000
	PRR	6,000
Traverse City	C&O (PM)	6,000
	PRR	6,000
Wyandotte	NYC	4,000
MINNESOTA		
Duluth	NP	4,000
Minneapolis	CMSP&P	4,000
	CRI&P	2,000
	GN	2,000
	NP	4,000
	REA	4,000
St. Cloud	GN	2,000
St. Paul (Sibley St.)	CMSP&P	4,000
(Prior Ave.)	CMSP&P	4,000
	CRI&P	2,000
	GN	2,000
	NP	4,000
	REA	4,000
Willmar	GN (p)	4,000
MISSISSIPPI		
Amory	SLSF	2,000
Artesia	GM&O (p)	2,500
Jackson	IC	2,000
Meridian	GM&O (p)	8,000
MISSOURI		
Chaffee	SLSF (p)	6,000
Jefferson City	MP	6,000
Joplin	SLSF	2,000
Kansas City	AT&SF	4,000
	CB&Q	5,000
	CRI&P	4,000
	KCS-L&A	4,000
	MP	6,000
	REA	4,000
	SLSF	4,000
	UP	4,000
	Wabash (p)	6,000
St. Joseph	CB&Q	4,000
St. Louis (Broadway)	C&EI	8,000
	CB&Q	5,000
	CRI&P	4,000
	Ill. Term. (p)	
(Broadway)	L&N (p)	6,000
(3 stations)	MP	4,000
	MKT	4,000
	REA	6,000
(Broadway)	SLSF	4,000
(7th St.)	SLSF	7,000
	SLSW	5,000
	Wabash	4,000
Springfield (Mill St.)	SLSF	4,000
(Chase St.)	SLSF	2,000
MONTANA		
Billings	GN (p)	4,000
	NP	4,000
Butte	NP	4,000
Great Falls	GN	2,000
Havre	GN	2,000
Helena	NP	4,000
Missoula	NP	4,000
NEBRASKA		
Alliance	CB&Q (p)	2,000
Grand Island	UP (p)	2,000
Lincoln	CB&Q	4,000
	UP (p)	2,000
North Platte	UP	4,000
Omaha	CB&Q	5,000
	CRI&P (p)	2,000
	MP	4,000
	REA	4,000
	UP	4,000
NEVADA		
Las Vegas	UP (p)	2,000
Reno	SP	4,000
NEW HAMPSHIRE		
Concord	B&M	2,000
Nashua	B&M	2,000
NEW JERSEY		
Atlantic City	REA	4,000
Bloomfield	Erie	4,000
Camden	PRR	3,000
Elizabeth Metropolitan Sta. & Tfr.	CNJ	4,000
Greenville Piers	PRR	6,000
Hoboken (City)	DL&W	4,000
Hoboken Term. Piers	DL&W	4,000
Jersey City Piers (B, C, E, G, I and Claremont Term)	LV	4,000
	PRR	5,000
Jersey City (Local)	Erie	3,000
Ltgrage Docks 11 & 14	CNJ	5,000
(Pavonia Ave.)	Erie	2,000
(Grand St.)	LV	4,000
	NYC	4,000
	PRR	2,000
(Erie Term.)	REA	800
(Comm. Term.)	REA	800
Newark	Erie	4,000
	PRR	5,000
New Brunswick	PRR (p)	2,000
North Newark	Erie	4,000
Passaic	DL&W	2,000
	Erie	4,000
Paterson	Erie	4,000
Trenton	PRR	6,000
Weehawken Piers	Erie	4,000
	NYC	6,000
NEW MEXICO		
Albuquerque	AT&SF	4,000
	REA	4,000
Clovis	AT&SF	4,000
Las Vegas	AT&SF	4,000
Santa Fe	AT&SF	4,000
NEW YORK		
Albany	D&H	4,000
	NYC	4,000
Auburn	NYC	4,000
Batavia	NYC (p)	4,000
Binghampton	DL&W (p)	4,000
	Erie	4,000
Brockport	NYC	4,000
Brooklyn (Bushwick)	LI (p)	4,000
(N. 4th St.)	PRR (p)	5,000
Buffalo	B&O	6,000
	DL&W	4,000
	Erie	4,000
	LV	4,000
	NYC	4,000
	NYC&SL	
	PRR (p)	5,000
	REA	5,000
	Wabash (p)	6,000
Cobleskill	D&H	1,500
Corning	Erie	4,000
	NYC	4,000
Elmira	DL&W (p)	4,000
	Erie	4,000
	PRR (p)	2,000
Fulton	DL&W (p)	4,000
Glens Falls	D&H	4,000
Hornell	Erie	4,000
Hudson	NYC (p)	4,000
Ithaca	DL&W (p)	4,000
Jamestown	Erie	4,000
Kingston	NYC	4,000
LeRoy	B&O (p)	4,000
	NYC	4,000
Little Falls	NYC	4,000
Lockport	NYC	4,000

These bulky packages are loaded three times as fast as a hand truck could do it—Texas and Pacific Railway Co.

IMPROVE SCHEDULES

THE FAST...SAFE ECONOMICAL WAY—

USE CLARK

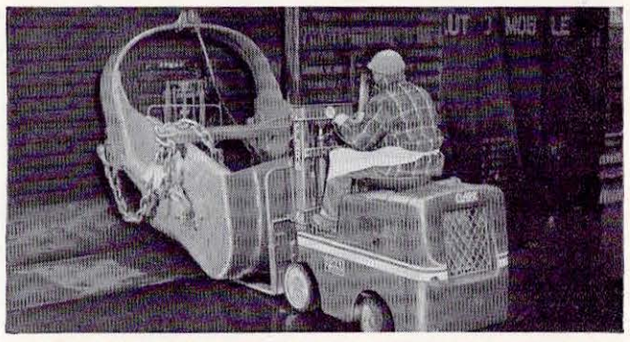
Fork-Lift Trucks IN ALL Materials Handling Operations

Even the age-old bugaboo of freight handling—L.C.L. shipments—gives way to modern handling methods implemented by

CLARK EQUIPMENT

How a Class A railroad solves its L.C.L. handling problems in Springfield, Missouri, the operating hub of the Frisco Railway; how modern handling simplifies L.C.L. shipments in Holland. You can have these two films on a loan basis simply by mailing in the coupon. Please specify three dates that are suitable to you.

Clark trucks mean fast handling of perishable food stuff for the Northern Pacific Railroad in Duluth, Minn.



Heavy, unmanageable articles are handled easily by Clark trucks of the Texas and Pacific Railway in Fort Worth.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 24, MICHIGAN

Please send: ☐ "Low Cost l.c.l. Handling" movie ☐ "Modern l.c.l. Handling in Holland" movie

Show dates:_____ Alternate dates:_____

Name_____

Firm Name_____

Address_____

City_____ Zone____ State_____

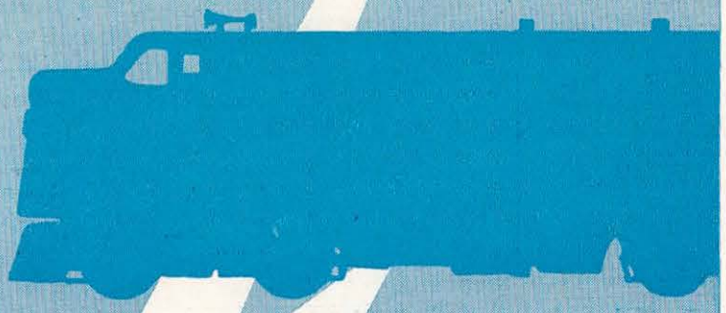
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

Easy does it! Those television sets damage easily. The Texas & Pacific at Dallas uses lift trucks and pallets to handle l.c.l.

Unit loads are made when shippers fill the Missouri Pacific's "Speedbox" with l.c.l. Speedboxes are handled in door-to-door service.

Station	Railroad	Max. Capy. Lb.
NEW YORK (Cont.)		
Long Island City	LI	2,000
(P. X. T.)	REA	4,000
Manchester Tfr.	LV	4,000
Maybrook	NYNH&H	4,000
Mechanicville	B&M	2,000
	D&H	6,000
Medina	NYC	4,000
Mineola-Garden City	LI (p)	4,000
Newburgh	NYC	4,000
New York City		
(Pier 22 N. R.)	B&O	6,000
(Pier 39 N. R.)	B&O	5,000
(Pier 66 N. R.)	B&O	4,000
(W. 26th St.)	B&O (p)	5,000
(Pier 23 N. R.)	CNJ	4,000
(Pier 39 N. R.)	CNJ	4,000
(Piers 13-41-68 N.R.)	DL&W	4,000
(Pier 26 E. R.)	DL&W	4,000
(Duane St.)	Erie	4,000
(W. 28th St.)	Erie	4,000
(Piers 8 and 38, N.R.)	LV	4,000
(Pier 44 E. R.)	LV	4,000
(Term. E. 34th St. and E. R.)	LV	4,000
(Export piers)	NYNH&H	4,000
(Pier 34 E. R.)	NYC	6,000
(Barclay St.)	NYC	6,000
(St. John's Park)	NYC	6,000
(33rd St.	NYC	6,000
(60th St.)	NYC	6,000
(Westchester Ave.)	NYC	4,000
(Desb. St.-Piers 27-8-9 N. R.)	PRR	6,000
(37th St.)	PRR	6,000
(Piers 49-50 N. R.)	PRR	6,000
(Fulton Fish Market)	REA	4,000
(West Side Term.)	REA	4,000
Niagara Falls	Erie	4,000
	NYC	4,000
N. Tonawanda	NYC	4,000
Olean	PRR (p)	3,000
Oswego	NYC (p)	4,000
Peekskill	NYC (p)	4,000
Plattsburg	D&H	6,000
Poughkeepsie	NYC (p)	4,000
Rochester	B&O	4,000
	Erie	4,000
	NYC	4,000
	PRR (p)	4,000
Rome	NYC	6,000
Rouses Point	D&H	6,000
St. George Tfr.	B&O	6,000
Schenectady	NYC	4,000
Syracuse	DL&W	4,000
	NYC	4,000
Troy	D&H	6,000
	NYC	4,000
Utica	NYC	3,500
	REA	6,000
Watertown	NYC	4,000
Whitehall	D&H	6,000
Yonkers	NYC	4,000
NORTH CAROLINA		
Charlotte	SAL (p)	2,000
	SOU (p)	4,000
Durham	N&W (p)	2,000
Goldsboro	ACL (p)	2,000
Greensboro	SOU (p)	4,000
Hamlet	SAL	2,000
Henderson	SAL (p)	2,000
Lumberton	SAL (p)	4,000
Raleigh	SAL (p)	4,000
Roanoke Rapids	SAL (p)	4,000
Rocky Mount Tfr.	ALC (p)	2,000
Spencer Tfr.	SOU	2,000
Spindale	SOU (p)	4,000
Wilmington	ACL (p)	2,000
Winston-Salem	N&W (p)	2,000
NORTH DAKOTA		
Fargo	GN (p)	4,000
	NP	4,000
Grand Forks	GN (p)	4,000
Minot	GN	2,000
OHIO		
Akron	B&O (p)	6,000
	Erie	4,000
	PRR	6,000
Alliance	PRR (p)	5,000
	NYC	4,000
Ashland	Erie	4,000
Ashtabula	NYC	4,000
Barberton	PRR	6,000
Bellefontaine	NYC	4,000
Brighton	B&O (p)	6,000
Bryan	NYC	4,000
Bucyrus	PRR	6,000
Canton	B&O (p)	4,000
	NYC&SL	5,000
	PRR	5,000
	REA	5,000
Chillicothe	B&O	3,500
	N&W (p)	2,000
Cincinnati	B&O	4,000
	C&O	4,000
(West End)	L&N	4,000
(East End)	L&N	4,000
	NYC	4,000
	PRR	6,000
	REA	4,000
	SOU	2,000
Cleveland	B&O	4,000
	Erie	6,000
	NYC	6,000
(E. 9th St.)	NYC&SL	6,000
(E. 75th St.)	NYC&SL	
(Davenport)	PRR	6,000
Cleveland (Cont.)	REA	2,000
Columbus	B&O	4,000
	NYC	4,000
	N&W (p)	2,000
	PRR	6,000
Coshocton	PRR	6,000
Dayton	B&O (p)	5,000
	Erie	4,000
	NYC	4,000
	PRR	6,000
Delaware	NYC	4,000
Elyria	NYC	4,000
Fremont	NYC (p)	4,000
Galion	NYC	4,000
Hamilton	PRR	6,000
Ironton	N&W (p)	2,000
Kent	Erie	4,000
Kenton	NYC	4,000
Lima	B&O	6,000
	Erie	4,000
	PRR	6,000
Lorain	NYC&SL	
Mansfield	PRR (p)	6,000
Marion	Erie	4,000
	NYC	4,000
Massillon	PRR (p)	6,000
Medina	B&O (p)	4,000
Middletown	NYC	4,000
	PRR	6,000
Newark	B&O	4,000
New London	NYC	4,000
Painesville	NYC	4,000
Portsmouth	N&W	2,000
Sandusky	NYC	4,000
Sharon	NYC	4,000
Shelby	NYC	4,000
Springfield	NYC	4,000
	PRR	6,000
Steubenville	PRR (p)	5,000
Tiffin	NYC	4,000
Toledo	B&O	6,000
	NYC	6,000
	NYC&SL	3,500
	PRR (p)	6,000
	REA	4,000
	Wabash (p)	6,000
Troy	NYC (p)	4,000
Urbana	NYC	4,000
Warren	Erie	6,000
	PRR	6,000
Willoughby	NYC	4,000
Wilmington	B&O (p)	4,000
Youngstown	B&O	4,000
	Erie	6,000
	NYC	4,000
	PRR	6,000
Zanesville	PRR	6,000
OKLAHOMA		
Oklahoma City	AT&SF	4,000
	CRI&P (p)	4,000

BLUE STREAK freight service



has been serving American Shippers

On October 1, 1931, the world's first merchandise trains operating on passenger train schedules were born on the Cotton Belt Route.

We are indeed proud of the contribution "Blue Streak" Service has made to modern shipping.

for 21 years!

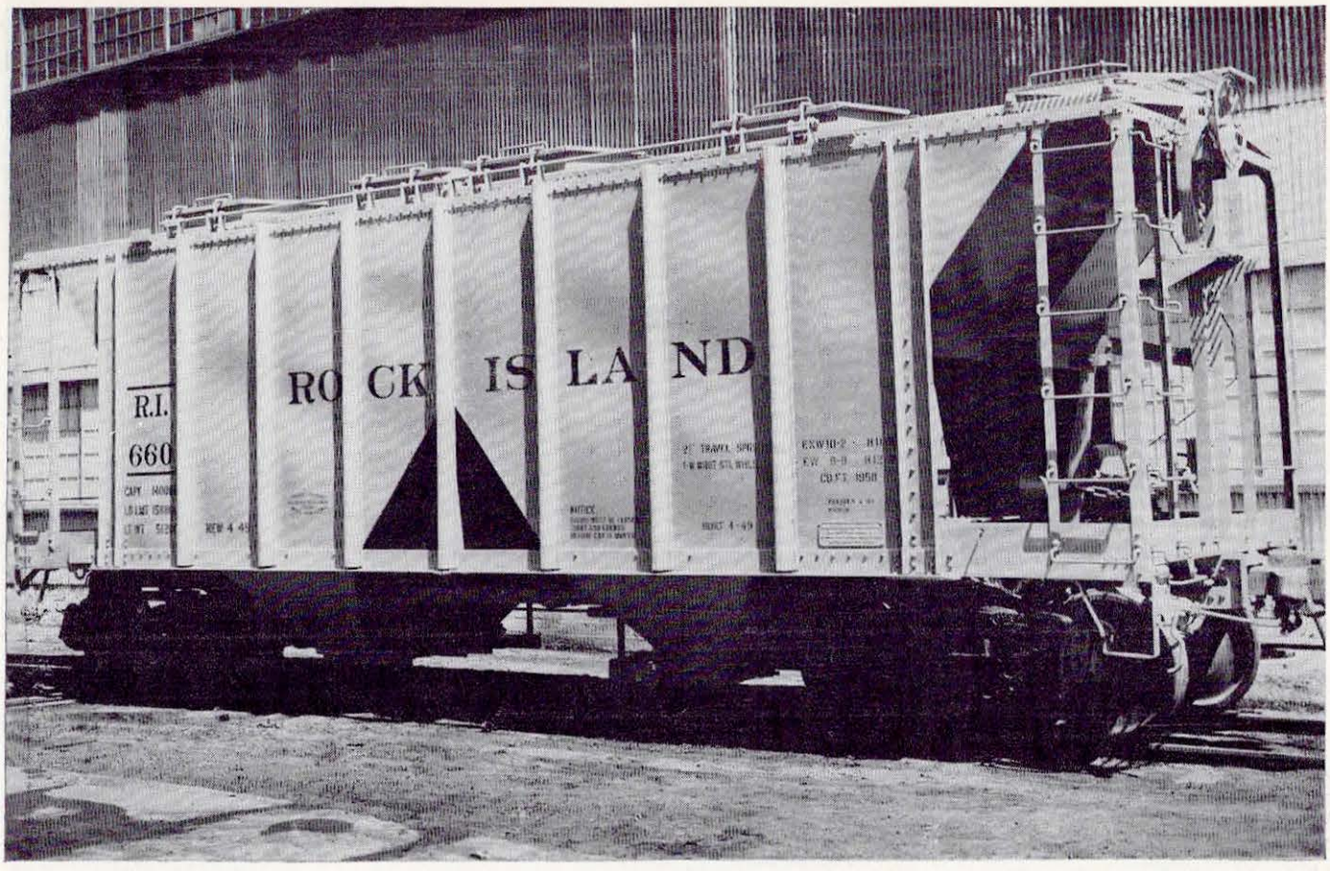
COTTON BELT ROUTE

BLUE STREAK freight service

ST. LOUIS SOUTHWESTERN RAILWAY LINES

to and from the SOUTHWEST

Station	Railroad	Max. Capy. Lb.
OKLAHOMA (Cont'd)		
	SLSF	4,000
Tulsa	SLSF	4,000
	AT&SF	4,000
Waynoka	AT&SF	4,000
OREGON		
Albany	SP (p)	4,000
Coos Bay	SP (p)	4,000
Eugene	SP (p)	4,000
Grants Pass	SP (p)	4,000
Meaford	SP (p)	4,000
Portland	REA	4,000
	SP&S	4,000
	SP	6,000
	UP	4,000
Roseburg	SP (p)	4,000
Salem	SP (p)	4,000
PENNSYLVANIA		
Aliquippa	NYC (P&LE)	4,000
Altoona	PRR	2,000
Beaver Falls	PRR (p)	5,000
Bellefonte	PRR	5,000
Braddock	PRR (p)	4,000
Butler	PRR	6,000
Canonsburg	PRR	6,000
Carlisle	PRR	6,000
Carnegie	PRR	6,000
Chambersburg	PRR	6,000
Coatesville	PRR	6,000
Connellsville	B&O	6,000
Erie	B&LE (p)	20,000
	NYC	4,000
	NYC&SL	
	PRR (p)	5,000
Greensburg	PRR (p)	6,000
Greenville	Erie	6,000
Grove City	B&LE (p)	20,000
Harrisburg	PRR	6,000
	RDG (p)	4,000
Homestead	PRR (p)	6,000
Johnstown	B&O	6,000
	PRR (p)	6,000
Lancaster	PRR	6,000
Latrobe	PRR (p)	6,000
Lebanon	PRR	6,000
	RDG	4,000
Lock Haven	PRR (p)	5,000
McKeesport	NYC (P&LE) (p)	4,000
	PRR (p)	6,000
Meadville	Erie	4,000
Monessen	NYC (P&LE) (p)	4,000
Newberry Jct. Tfr.	NYC	4,000
	RDG	4,000
New Castle	B&O	4,000
	NYC (P&LE) (p)	4,000
	PRR	6,000
New Kensington	PRR	6,000
Oil City	PRR (p)	5,000
Philadelphia		
(Pier 24)	B&O	4,000
(Produce Term.)	B&O (p)	5,000
(Race St.)	B&O (p)	5,000
(S. Philadelphia Sta.)	PRR	6,000
(Federal st. Sta.)	PRR	6,000
(Walnut st. Sta.)	PRR	2,000
(Dock st. Sta.)	PRR	5,000
(Shackamaxon Sta.)	PRR	3,000
(Kensington Sta.)	PRR (p)	5,000
(Fairhill Sta.)	PRR (p)	3,000
(Ontario St.)	PRR (p)	5,000
	REA	2,000
(2nd St. & Lehigh ave;	RDG	6,000
(Willow & Noble st.;	RDG	6,000
(Wayne Jct. Tfr.)	RDG	4,000
Pittsburgh	B&O	6,000
	NYC (P&LE)	6,000
(Federal St.)	PRR	4,000
(11th St.)	PRR	4,000
Reading	PRR (p)	6,000
	RDG	6,000
Scranton	DL&W (p)	4,000
	Erie	4,000
Scranton Tfr.	DL&W	4,000
Sharon	Erie	6,000
	PRR	6,000
Shippensburg	PRR	6,000
Steelton	PRR	6,000
Strouasburg	DL&W (p)	4,000
Titusville	PRR (p)	5,000
Turtle Creek—East Pittsburgh	PRR (p)	6,000
Uniontown	PRR (p)	6,000
Warren	NYC	4,000
	PRR (p)	5,000
Washington	B&O	6,000
	PRR	6,000
Waynesboro	PRR	6,000
Wilkes-Barre	PRR (p)	8,000
Williamsport	PRR	2,000
York	PRR (p)	4,000
RHODE ISLAND		
Pawtucket	NYNH&H	4,000
Providence	NYNH&H	4,000
SOUTH CAROLINA		
Charleston	ACL (p)	2,000
	SAL (p)	4,000
Columbia	ACL (p)	2,000
	SAL (p)	2,000
Darlington	ACL (p)	2,000
Florence Tfr.	ACL (p)	2,000
Georgetown	SAL (p)	4,000
Sumter	ACL (p)	2,000
SOUTH DAKOTA		
Aberdeen	CMSP&P	4,000
Sioux Falls	GN (p)	4,000
Watertown	GN (p)	4,000
TENNESSEE		
Chattanooga	NC&SL	3,000
	SOU	2,000
Johnson City	Clinchfield	3,000
Kingsport	Clinchfield	2,500
Knoxville	L&N (p)	6,000
	REA	4,000
	SOU	2,000
Memphis	CRI&P	2,000
	IC	4,000
	MP	6,000
	NC&SL (p)	3,000
	SLSF	4,000
	SOU	2,000
Nashville	L&N (p)	6,000
	NC&SL	3,000
TEXAS		
Amarillo	AT&SF	4,000
Beaumont	MP	2,000
	T&NO	2,000
Brownsville	T&NO	2,000
Corpus Christi	MP	2,000
Dallas	AT&SF	4,000
	MKT	2,000
	REA	4,000
	SLSW	5,000
	T&NO	4,000
	T&P	4,000
El Paso	AT&SF	4,000
	T&NO	4,000
Fort Worth	AT&SF	4,000
	CRI&P	2,000
	MKT	2,000
	REA	2,000
	SLSF (p)	6,000
	T&P	2,000
Galveston	AT&SF	4,000
Harlingen	MP	2,000
	T&NO	2,000
Houston	CRI&P	4,000
	MKT	5,000
	MP	4,000
	REA	4,000
	T&NO	6,000
Laredo	MP	2,000
Lubbock	AT&SF	4,000
San Angelo	AT&SF	4,000
San Antonio	MKT	2,000
	MP	2,000
	T&NO	4,000
Temple	AT&SF	4,000
Tyler	SLSW (p)	4,000
Victoria	T&NO	2,000
Waco	SLSW (p)	4,000
Wichita Falls	MKT	2,000
UTAH		
Ogden	REA	4,000
	UP	4,000
Salt Lake City	D&RGW-WP	5,000
	UP	3,000
VERMONT		
Newport Storage Shed	CPR	3,000
Rutland	Rutland (p)	5,000
White River Junction	B&M	2,000
VIRGINIA		
Bedford	N&W (p)	2,000
Blackstone	N&W (p)	2,000
Bristol	N&W (p)	2,000
Danville	A&D	2,500
	SOU	2,000
Galax	N&W (p)	2,000
Lynchburg	N&W	2,000
Martinsville	N&W (p)	2,000
Norfolk	ACL (p)	2,000
(Pier "S")	N&W	4,000
(City Sta.)	N&W	4,000
	PRR	6,000
	REA	4,000
	VGN	4,000
Norton	N&W (p)	2,000
Petersburg	N&W (p)	2,000
Pinners Point	ACL	2,000
	SOU	2,000
Portsmouth	SAL	4,000
Pulaski	N&W (p)	2,000
Radford	N&W (p)	2,000
Richmond	ACL (p)	2,000
	C&O	4,000
	SAL (p)	2,000
Roanoke	N&W	4,000
	VGN (p)	5,000
Winchester	PRR	6,000
WASHINGTON		
Pasco	SP&S	4,000
Seattle	CMSP&P	4,000
	GN	2,000
	NP	4,000
	REA	4,000
	UP	3,000
Spokane	GN	3,000
	NP	4,000
	SP&S	4,000
	UP	3,500
Tacoma	GN	4,000
	NP	4,000
WEST VIRGINIA		
Bluefield	N&W (p)	2,000
Charleston	NYC	4,000
Clarksburg	B&O	6,000
Fairmont	B&O (p)	4,000
Huntington	C&O (p)	4,000
Mullens	VGN (p)	5,000
Parkersburg	B&O (p)	5,000
Weirton	PRR	6,000
Welch	N&W (p)	2,000
Wheeling	B&O (p)	5,000
	PRR	6,000
Williamson	N&W (p)	2,000
WISCONSIN		
Milwaukee	CMSP&P	4,000
	GTW	4,000
	REA	4,000
Superior	GN	4,000
WYOMING		
Cheyenne	UP	3,500
Rock Springs	UP	3,500
ALBERTA (Canada)		
Edmonton	CNR	4,000
BRITISH COLUMBIA (Canada)		
Nanaimo Piers	CPR	3,500
Vancouver	CPR	9,500
(Frt. Sta. & Tfr.)	CNR	4,000
(Piers)	CPR	28,000
(Piers)	GN	4,000
MANITOBA (Canada)		
Winnipeg	CNR	4,000
	CPR	12,000
NEW BRUNSWICK (Canada)		
Saint John Piers	CNR	4,000
Saint John Reed's Point	CPR	4,000
West Saint John (winter)	CPR	4,500
NEWFOUNDLAND (Canada)		
Port Aux Basques	CNR	4,000
St. John's	CNR	3,000
NOVA SCOTIA (Canada)		
Digby	CPR	4,000
Halifax	CPR	4,000
(Piers)	CNR	6,000
ONTARIO (Canada)		
Belleville	CNR (p)	5,000
Brantford	CNR (p)	5,000
Cornwall	CNR (p)	4,000
Fort William	CPR	4,000
Galt	CPR (p)	2,000
Guelph	CNR (p)	5,000
Kingston	CNR (p)	5,000
Kitchener	CNR (p)	5,000
London	CNR	4,000
	CPR (p)	2,500
Merritton	CNR (p)	4,000
North Bay	CPR (p)	2,500
Ottawa	CNR (p)	5,000
Owen Sound	CNR (p)	5,000
Peterboro	CNR (p)	5,000
Point Edward Piers	CNR	6,000
Port Arthur Piers	CNR	6,000
St. Catherines	CNR	2,500
Sarnia	CNR (p)	3,500
Stratford	CNR (p)	5,000
Sudbury	CPR	4,000
Toronto	CNR	4,000
	CPR	2,000
Trenton	CPR	4,000
West Toronto	CPR (p)	2,500
Windsor	CNR (p)	5,000
QUEBEC (Canada)		
Montreal Piers		
(Summer)	CPR	4,500
(Summer)	CNR	6,000
(Frt. Sta. & Tfr.)	CNR	5,000
(Place Viger Sta.)	CPR	4,000
Quebec	CNR (p)	5,000
Sherbrooke	CPR	2,500
Sorel	CNR (p)	10,000
SASKATCHEWAN (Canada)		
Saskatoon	CNR	4,000



YEARS OF SERVICE

added in one day!

Corrosive cargoes can't hurt this hopper car! It's covered with a tough, tight-sticking coating based on VINYLITE Brand Resins—one that's good for years of protection to the metal surface.

And coatings like this dry like lacquer, are applied in only one day! There's no need for long finishing schedules that keep cars out of service.

Coating systems based on VINYLITE Brand Resins have been tested by railroads for periods as long as five years. Whatever the load—soda ash, sulphur, phosphates, lime, salt, oil or alcohol—car finishes are unharmed. Such coatings come in a wide range of enduring colors, serve equally well on metal, concrete, or masonry.

Get more protection, longer service, lower maintenance costs, with these coatings! They have the same qualities that make VINYLITE Resins and Plastics so useful throughout defense and basic industry. We'll gladly send you a list of suppliers, if you'll write Dept. OB-73.

Data on "Carbide" courtesy Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.

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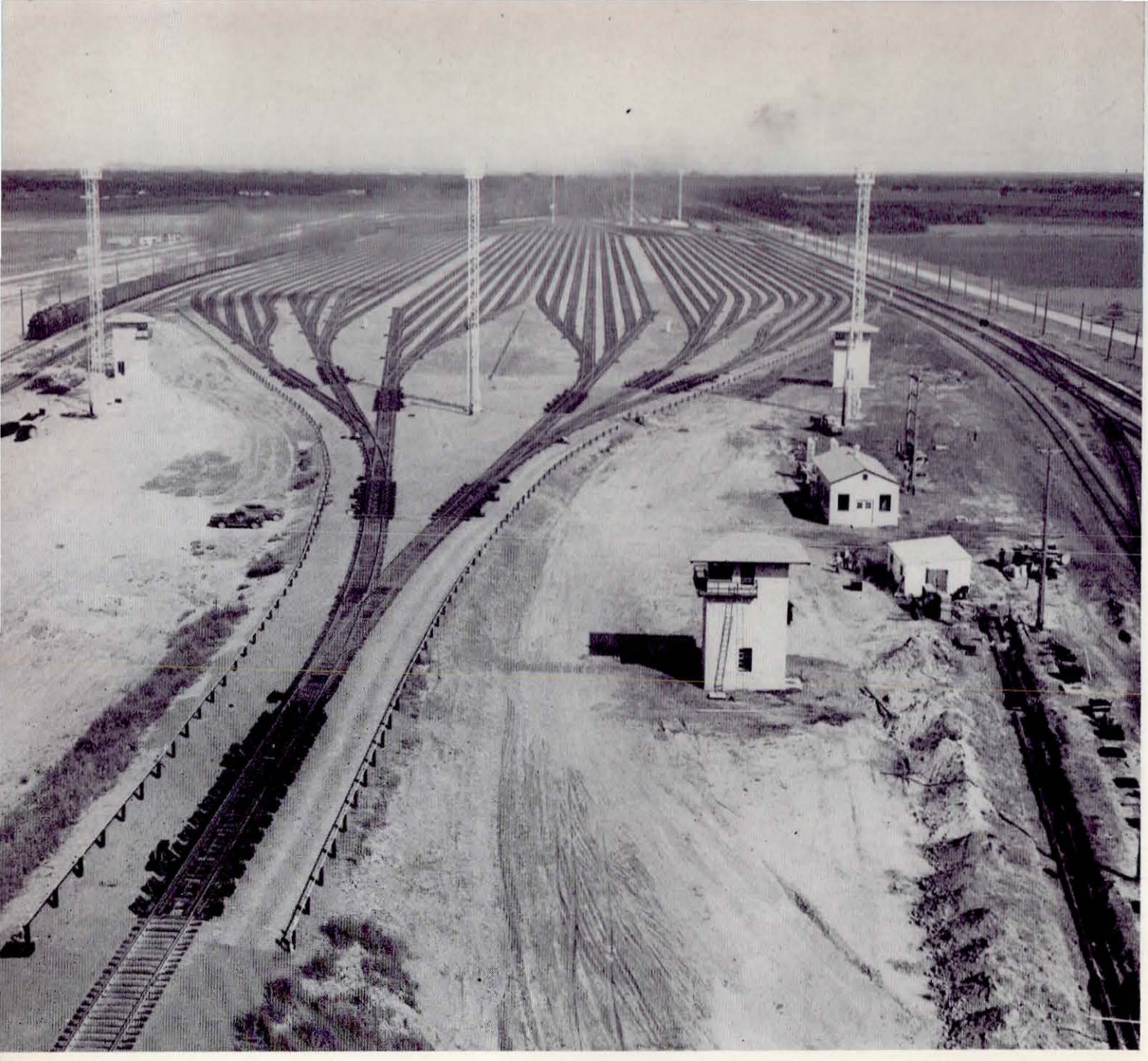


This car retarder yard at North Platte, Neb., on the Union Pacific, effects a net annual saving of 48.8 per cent on capital investment.

Economics and New Practices Featured at Signal Section Meeting

Savings ranging from 27.3 per cent to as much as 55.5 per cent realized on investment costs from installations that not only expedite trains but also increase track capacity as much as 20 per cent

Recent individual signaling installations effect savings which represent annual returns of (1) 27.3 per cent on a change from double to single track with centralized traffic control; (2) 48.4 per cent on a new car-retarder-equipped yard; (3) 55.5 per cent on snow melter switch heaters; (4) 45.5 per cent on construction machines; and (5) 51.7 per cent on controlled manual block. In another case a 20 per cent increase in track capacity was secured by installing automatic block on single-track.

R. H. C. Balliet,
Secretary

W. N. Hartman,
Second Vice-Chairman

R. W. Troth,
First Vice-Chairman

These and other installations were discussed at the annual meeting of the Signal Section of the Association of American Railroads at Quebec, Que., on September 29 and 30, and October 1. R. W. Troth, superintendent of signals and communications of the St. Louis-San Francisco, vice-chairman of the section, presided at this meeting. (The chairman, E. S. Taylor, engineer of signals, Canadian Pacific, died June 28.) The attendance at this meeting included 518 members and 327 guests.

In addition to opening remarks by Vice-Chairman Troth, the program included addresses by N. R. Crump, vice-president of the Canadian Pacific, and S. F. Dingle, vice-president of the Canadian National. A sound-slide film covering signal aspects used on railroads operating under the "Uniform Code of Operating Rules" was presented by F. O. Garrett, operating rules instructor of the Missouri Pacific; and a sound motion picture on retarder speed control and automatic switching was presented by the Union Switch & Signal Division of Westinghouse Air Brake Company.

Reports presented by nine of the standing committees dealt with requisites, specifications, circuits, standard drawings and other technical details of interest principally to signal engineers. The reports of three committees were of more general interest, dealing with economics, signaling practice and highway crossing protection.

Economics of Signaling

One report—which deals with economics of automatic block on the Canadian Pacific—shows that an installation of automatic block signaling on 129 miles of single track increased the track capacity about 20 per cent, in terms of the number of trains that can be handled without delays. The average train speed was increased from 16.8 to 20.7 m.p.h., and $21,200 was saved annually in fuel. Train overtime per 1,000 gross ton-miles was reduced from 11.0 to 0.81 hours, representing a saving of $47,700 annually.

In a report on the economics of roller bearings on switches, the specific advantages were summarized as follows:

1. Improved overall operation, whether used in conjunction with power-operated, mechanically operated, or spring, switches.
2. Reduced power consumption and operating time for power-operated switches.
3. Decreased wear of connections and operating mechanism, especially when switch plates become dry or dirty.
4. Substitution of longer and heavier points for mechanically operated switches.
5. Successful operation of mechanical switches farther removed from the control point.
6. Reduces complaints from levermen about difficulty in operating mechanical switches.
7. Improved performance of spring switches through reduced friction when points return after a trailing movement.
8. Where facing point lock is used on a spring switch, roller bearings materially aid the return of the points to normal position in relation to the stock rail at the point where lock connection is attached.

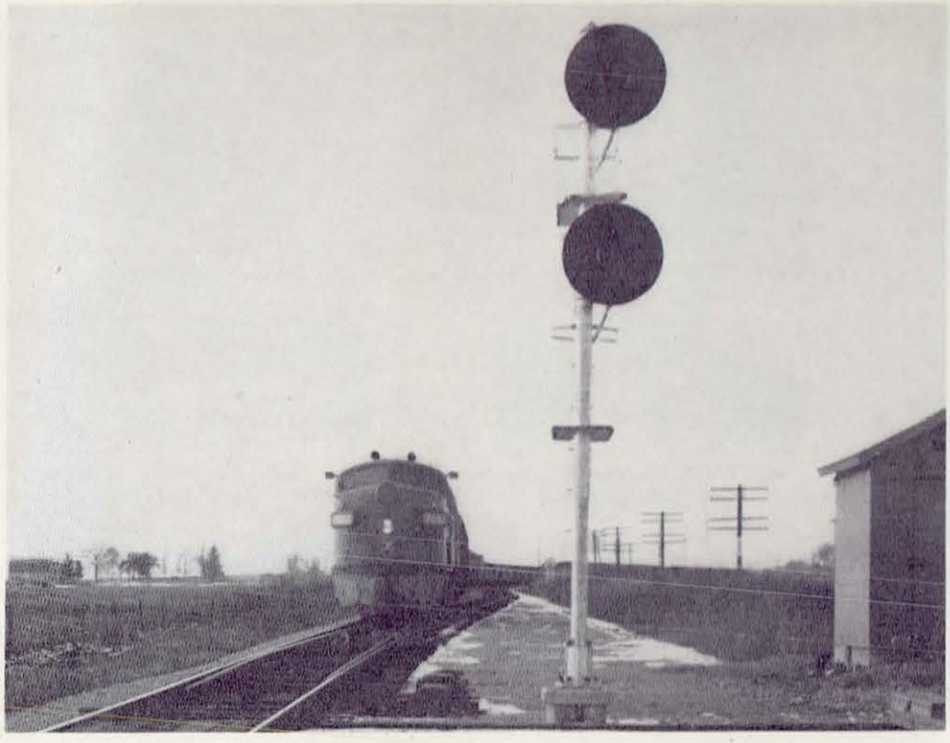
Car-Retarder Yard Pays Its Way

A report on a car-retarder classification yard, installed on the Union Pacific at North Platte, Neb., in 1948, showed an annual return, after the 5 per cent interest charged against the installation, of 48.4 per cent on capital investment and 38.2 per cent on total cost. This yard classifies about 2,000 to 2,500 cars daily. The cost of the new terminal facilities including all trackage, grading, drainage and other facilities amounted to $3,183,000. The gross saving per annum based on comparison of the 1947 and 1949 operations, and equated to place the two years on the comparable cost basis, amounted to $1,676,131. After allowing $335,973 for cost of operation, maintenance and depreciation of the new plant, a net annual saving of $1,340,158 was effected.

One of the reports dealt with the economics of single-main track equipped with C.T.C., replacing two main tracks on 67 miles of the Milwaukee between Green Island, Iowa, and Marion. The project cost $543,045, and the retirement, principally rail, represented $1,772,155. The annual saving in operating expenses totals as high as $102,196.

A second report discusses the conversion of second main track to a yard track and the installation of C.T.C. on the remaining main track at Inman yard near Atlanta, Ga., on the Southern. The gross saving is $49,501 annually. The net saving of $36,973 annually represents 34 per cent on capital investment, after the 3 per cent interest charge.

The saving which can be accomplished by changing



Removal of second main track and installation of C.T.C. on remaining track saves 27.3 per cent on a 55-mile project on the Milwaukee.

from double track to single track results from eliminating the track and roadway expenses applying to the track removed. As a basis for economic studies, one of the committees presented a report based on Interstate Commerce Commission data, listing in each instance, for 78 railroads, the equated track miles (running tracks); track and roadway maintenance expenses, total and per equated track miles; and gross ton-miles per mile of road. The track and roadway maintenance expenses per equated track mile for the year 1950 varied from a minimum of $476 to a maximum of $6,291, with a composite average of $2,317 for the 78 railroads.

An extensive report dealt with the use of highway trucks by signal maintenance and construction forces. One signal maintainer uses a ½-ton pick-up truck an average of 1,234 miles monthly at an average total cost of $0.047 per mile. One road has supplied a truck to each of seven signal construction gangs. One truck is rated at 1 ton, one at 1½ tons, and four at 2 tons. Operating costs, including gas, oil, garage rent, replacements, repairs, licenses, depreciation and insurance, total an average of $1,362.39 per truck annually. The average monthly mileage per truck was 885 miles at an average total cost of $0.135 per mile.

Several railroads have been using power-operated ditch diggers and pole hole diggers. One digger, which cost $2,500, made a saving equivalent to 44 per cent on capital investment, over the 4 per cent interest charge. A second digger, which cost $9,500, made a saving of 45.5 per cent in addition to 4 per cent interest.

The Committee on Signaling Practice reported on several subjects. As a noteworthy change in signal practice, a report was presented on signaling for siding tracks in C. T. C. territory.

To expedite train movements, bring about non-stop meets, and to permit better handling of long freight trains into and out of sidings, many roads are finding it practicable to install signaling on sidings and to provide signal indications that are less restrictive than formerly used. In many installations in the past the move into and through the siding has been under the "restricting" aspect, Standard Code Rule 290. Some roads now install track circuits on the sidings and use the "slow-approach" aspect, Rule 288, or the "slow-clear" aspect, Rule 287, depending upon track occupancy. Other roads have installed medium speed turnouts with track circuited sidings and make use of the "medium-approach" aspect. Rule 286, or, where extra long sidings are provided with intermediate signals thereon, the "medium-clear" aspect, Rule 283, depending upon track occupancy.

New Systems

This committee also reported on new systems and devices. A statement concerning a new multiple-aspect cab signal system is as follows:

A new multiple aspect cab signal system, which may be used with d. c. half-wave rectified a. c., and a. c. coded track circuits, has been developed. When a. c. coded track circuits are used, standard 60-cycle a. c. may be employed as the source of energy. It is not necessary to supply special frequencies such as 100 cycles. The same locomotive equipment serves for all applications and requires no switching or adjustment when changing from one type of coded track energy to another. Locomotives can operate over routes in which both a. c. and d. c. coded track circuits occur. Locomotives equipped with cab signal may be placed in operating pools regardless of the track energy used in the territory involved. This is a development of the General Railway Signal Company.

The report also included explanations of ten new devices, including six new types of relays made by the Union Switch & Signal Division of the Westinghouse Air Brake Company, and solderless terminals for attaching wires to relays and binding posts without the use of solder, made by Aircraft-Marine Products, Inc. A further report included aspects and indications for signals used to direct operation in a gravity type classification yard.

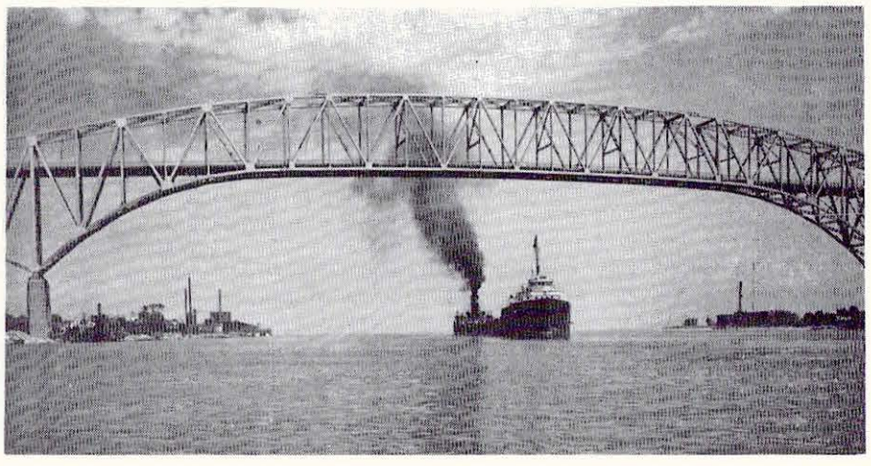
Winter Ore Movement by Rail Now Appears Unlikely

Intensified utilization of lake vessels, plus present rail movement, will probably balance "net" losses resulting from steel strike

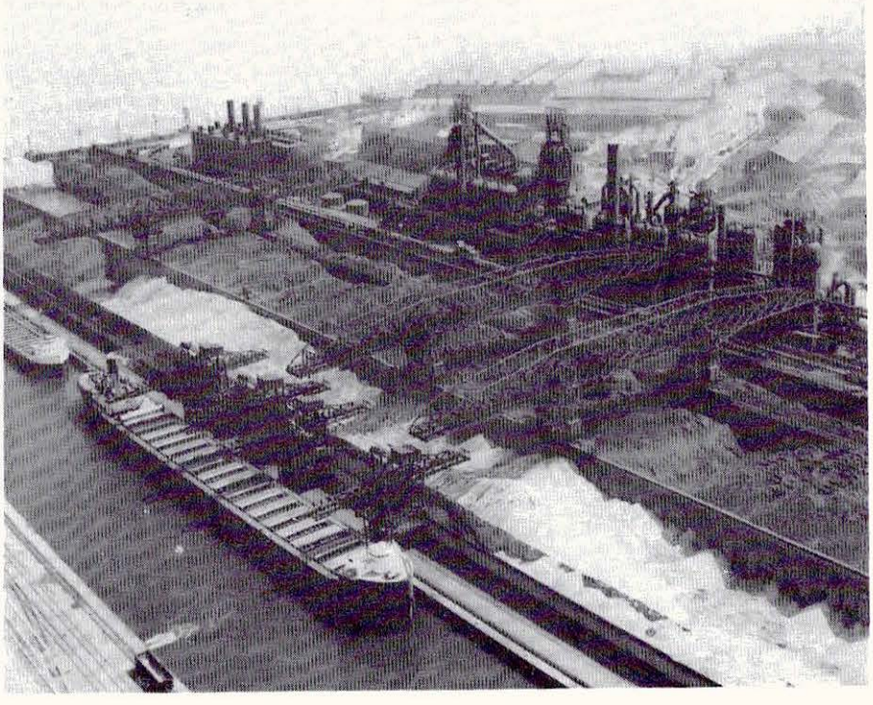
Unless fickle weather conditions markedly shorten the present Great Lakes navigation season, there is little likelihood of an all-rail movement of ore taking place this winter. That is the opinion of traffic men of two of the nation's largest steel producers—United States Steel Corporation and Inland Steel Company.

When the steel strike ended on July 25, navigation on the Great Lakes was resumed with a 21-million-ton deficit against the original goal of moving 96 million tons of iron ore from the mines to the mills within the navigation season. But this did not pose quite the problem it seemed to. This "deficit" was, in effect, a "gross" tonnage loss. It did not take into account the parallel loss of steel production. The "net" loss was closer to half that figure—considering that the normal capacity of the ore fleet exceeds consumption at the mills by at least 42 per cent to provide for winter stock piling.

Working further to reduce this "net" tonnage loss



THE BIG QUESTION MARK is the date at which weather will bring upper Great Lakes navigation to a close. If the vessels can run even a few days into December, stockpiles at the mills should be adequate until spring. But fogs, which last well into mid-day each day, hamper fast navigation in October and November.



ANOTHER BIG HITCH is that many mills (such as U.S. Steel's South Chicago works, shown here) are not set up to handle ore directly from freight cars. Trackage in the foreground, for instance, is beyond reach of unloading machinery, while that in the background (just in front of the blast furnaces) must be free for movement of coke. Barges brought ore here last winter.

are two other important factors: (a) An intensified utilization of ore vessels by their operators—maximum loadings (aided by high water levels in the lakes), faster turnarounds, exclusion of grain movement and addition of several large and very fast vessels to the fleet; (b) the present all-rail movement of ore from both the upper lakes and the lower Wisconsin and Michigan mines, which, as of September 6, had totaled 1.8 million tons, and which is expected to continue at the rate of 160,000 tons weekly until winter weather closes mining operations (usually about the same time it closes navigation—about December 1).

Winter Movement Differs

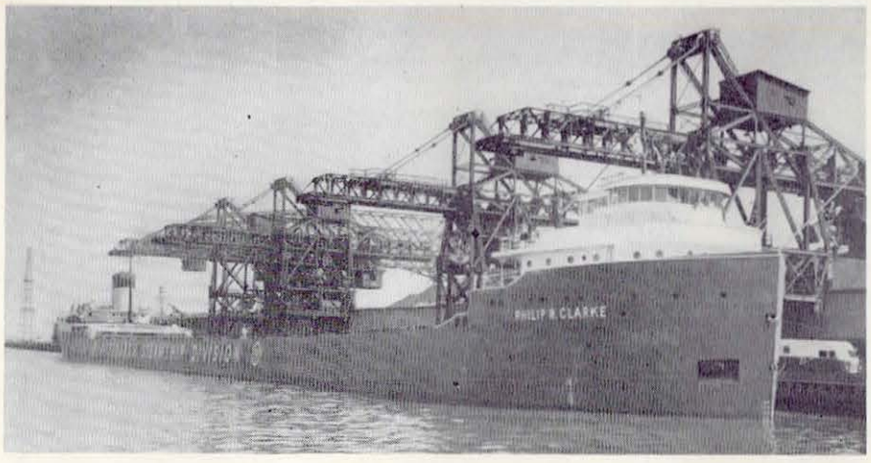
The present movement of ore is entirely different from that carried out last winter, and what was earlier contemplated for this winter too. It involves use of conventional open-top cars—hoppers and gondolas—and is largely confined to those mills physically able to handle ore direct from freight cars.

A winter movement, on the other hand, would probably have followed last year's pattern in the use of regular ore cars. These cars are normally equipped with small holes in their sides where steam "lances" may be inserted to thaw ore (which often freezes enroute from mine to loading dock in fall and early spring months). These holes are essential to the handling of ore direct to mills in the winter months, and prevent the use of conventional hopper and gondola cars for that purpose.

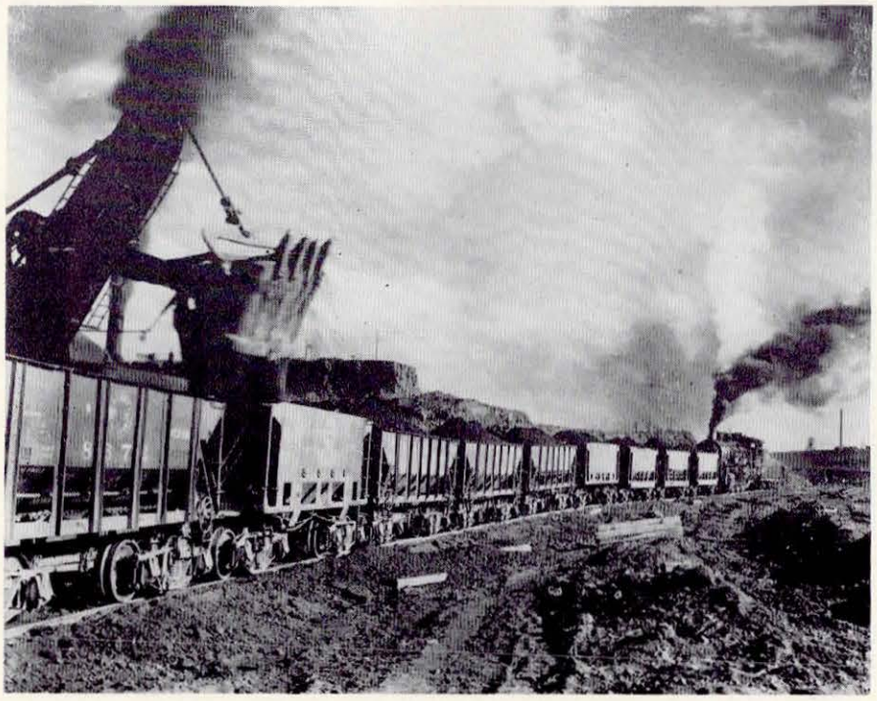
Ore cars are very short—less than 25 feet—and because they have some specialized fittings (such as high-level air hoses), it was necessary to run them last winter in solid trains or blocks under slow orders. Because they are designed for an exceedingly heavy commodity, they have little cubic capacity, and their utility on return moves was virtually nil.

Use of these ore cars for winter movement was further complicated last year by the fact that all heavy repair work is conducted during the otherwise-idle winter months. Too intensive use in winter ore movement to the mills could possibly disrupt maintenance schedules and ultimately disrupt movement of ore to docks in early spring months.

All things considered, the steel companies feel that stockpiles will be adequate to meet winter steel production needs, provided the fall season is "normal"—weather-wise.



A BIG TONNAGE BOOST—the movement of *more* ore at greater speed—has been made possible by recent additions to the Great Lakes fleet of vessels such as the "Philip H. Clarke" of U.S. Steel's Pittsburgh Steamship division. All vessels have been carrying heavier loads this year because of abnormally high lake water levels.



ONE BIG STUMBLING BLOCK to wintertime all-rail movement of iron ore is the cost of mining after the ore has become frozen. It must be steam thawed before shovels can load it into cars. Added to this must be the cost of rethawing for unloading at mills, as well as the basically higher cost of the rail movement itself.

Willie ends campaign with... VICTORY CHANT!

Beat-um tom-tom across U.S.
Tell-um shippers what railroad best!
Vote for Willie! Vote for Willie!

From biggest towns to whistle stops,
Tell-um how T.P.&W. tops!
Vote for Willie! Vote for Willie!

Many people see Willie's mug,
Serve him chicken a la king, ugh!
Vote for Willie! Vote for Willie!

But Willie simply smile and say,
"Ship T.P.&W.– no delay!"
Vote for Willie! Vote for Willie!

"Never make-um customer nervous –
On-time shipments part of service!"
Vote for Willie! Vote for Willie!

"Call-em Tee-Pee agent and say,
'Me send-um carload now...today!'
That please Willie! That please Willie!"

During the important month to come, it is my most earnest hope that "Willie" will remind you not only of your individual obligation to vote, but also of the need for you to get others to vote selflessly, without preconceived bias, for the good of our country.

J. RUSSEL COULTER, *President*

T.P.W

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(Continued from page 25)
furnaces and subsequently cooled so as to remove internal stresses. Temperature and timing of each production step is automatic.

The new Canadian plant, which will be housed in a brick building of modern design, will ultimately have a capacity of 360 X-3 wheels a day, but initial production—which is expected to begin in the summer of 1953—will be about half that figure. At present, Canadian roads must import all steel freight car wheels from the U.S. or other countries.

The X-3 steel wheel is being introduced on the 75th anniversary of Griffin's entry into the freight-car wheel manufacturing field.

As reported in *Railway Age* last week, **Charles T. Zaoral** has been elected a director of the **New York Air Brake Company** and, effective November 1, vice-president in charge of operations; **Lewis K. Sillcox,** vice-chairman of the board, and **Robert G. Hess,** manager of the firm's main division at Watertown, N.Y.

Charles T. Zaoral

Mr. Zaoral has been general manager of the international division of Bendix Aviation Corporation and a director of its subsidiaries in Canada and Australia for the past seven years. Before joining Bendix, he was with General Motors Corporation for 15 years,

Lewis K. Sillcox

principally in sales and engineering activities. During World War II he worked for the Electro-Motive Division at La Grange, Ill., where he was in charge of market and sales research on diesel locomotives for United States and foreign railroads. In 1945 he was appointed chief executive officer of Bendix International.

Mr. Sillcox began his career in 1903 as a railroad foundry apprentice. From

Robert G. Hess

1918 to 1927 he was general superintendent of motive power of the then Chicago, Milwaukee & St. Paul. In the latter year he became first vice-president of New York Air Brake and in 1948 he was made a director. He was elected executive vice-president in 1949.

Mr. Hess began his career with the Westinghouse Electric Corporation. In 1941 he was appointed general superintendent of Hydraulic Controls, Inc., of Chicago, which subsequently became the hydraulic division of New York Air Brake. Mr. Hess worked in various capacities until he was named head of the company's subsidiary, the Kinney Manufacturing Company, which position he held at the time of his new appointment.

C. B. Foster, who has been appointed to the newly created position of sales manager—engines for the Cummins Engine Company, at Columbus, Ind. Mr. Foster formerly was manager—contract sales, and in his new capacity will continue to be in charge of all government contract work.

William M. Taylor has been appointed manager, export department, for the **Quaker Rubber Corporation,** division of the **H. K. Porter Company.** Mr. Taylor also will continue his duties as merchandising manager.

The **McDougall-Butler Company** has added three new representatives to its sales force: **Alex R. Schreiber** has been appointed to cover northeastern and north central New York, with headquarters at Syracuse; **George D. Reno,** to cover Connecticut and Rhode Island, with headquarters at West Hartford, Conn., and **William E. Dennis** in Cleveland and Cincinnati, with headquarters in Cleveland. The company also added **Justin A. Shook** to its Washington, D.C., staff several months ago.

Hewitt-Robins, Inc., has opened new headquarters for the western division at 2533 Malt avenue, Los Angeles, and for the south central division at 5711 Navigation boulevard, Houston, Tex.

Skilsaw, Inc., Chicago, has changed its name to **Skil Corporation.**

The **H. K. Porter Company** has acquired the **Watson-Stillman Company,** Roselle, N.J., on a cash basis. Operations at Watson-Stillman will continue under direction of **Edwin A. Stillman,** president. The Watson-Stillman fittings division will be operated as a division of H. K. Porter.

Eugene E. Dailey has been appointed district sales manager of the **Ramapo Ajax Division** of the **American Brake Shoe Company** in the Cleveland area. Mr. Dailey joined American Brake Shoe as an apprentice in 1941 and went into sales in 1947.

The industrial truck sales and service departments of the eastern division of the **Hyster Company** have been transferred from Peoria, Ill., to Danville. The new sales offices are housed in a recently completed $40,000 office building, adjacent to the manufacturing plant.

CAR SERVICE

I.C.C. Service Order No. 858, which places restrictions on the reconsigning of lumber, has been modified by Amendment No. 9, which set back the expiration date from September 30 until March 31, 1953.

I.C.C. Service Order No. 889-A, effective at 11:59 p.m. September 30,

vacated revised Service Order No. 889, which prescribed minimum-loading requirements with respect to stop-off cars loaded with lumber or lumber products in Washington or Oregon (*Railway Age*, August 25, page 17).

CONSTRUCTION

Alabama Great Southern. — A contract has been awarded to the Luria Engineering Company, Bethlehem, Pa., for a new steel car shed to be erected at the Southern system's yards in Irondale, just outside Birmingham, Ala. The shed, which will have a clear-span floor area of 31,600 sq. ft., will be of the standardized rigid-frame type produced by Luria at its steel fabricating plant. It will be 158 ft. wide and 200 ft. long, with an eave height of 20 ft. The frame will require 210 tons of structural steel. The structure is scheduled to be shipped in November, with erection to proceed immediately thereafter.

Canadian Pacific.—Projects currently in progress include the following:

New Buildings—A diesel shop at Nelson, B. C., to be equipped to retread locomotive wheels without removal, will be completed about April 1, 1953. The shop is to be 130 feet by 55 feet, of concrete foundation on treated timber piles, with steel frame and cement and asbestos board walls. It will contain complete shop facilities for diesel locomotive servicing. At St. Luc yard, Montreal, a lubricating oil reclamation plant will be housed in a one-story and basement structure of brick and concrete. A boiler house is being constructed at Chateau Lake Louise, Alta. It will have a concrete foundation, brick walls and steel roof framing. An office section of the house will have stone trim.

Trackage—Yard changes and siding extension costs for various districts are as follows: Quebec, $210,000; Algoma, $320,000; Alberta, $967,500; British Columbia (including additional storage tracks), $272,000.

Signaling — In the Quebec district, replacing of present overlap system on Lyndonville subdivision with absolute-permissive block between West Burke, Vt., and Barton, will cost $190,000. In the Ontario district, installation of absolute-permissive block on 71 miles of single-track line between Medonte, Ont., and Bolton, on the Mactier subdivision, will cost $900,000.

A subway, primarily to facilitate highway and pedestrian traffic, is being constructed on Christophe Colomb avenue, Montreal. The excavation is almost entirely in rock and will provide for six railway tracks. The new structure will be of reinforced concrete.

Handle your LCL Freight with
JERVIS B. WEBB COMPANY
TOWVEYOR SYSTEMS

Illustrated is a Truck Freight System readily adaptable to LCL Freight Handling. Note the small trailers with **ONE** shipment each.

Webb TOWVEYORS Act As Mediums For:

SORTING: Shipments are sorted while being loaded through placing them on individual trailers — eliminating stacking and re-sorting.

CONVEYING: Loads are handled for long distances without any operator being required to go with them.

PACING: With its smooth continuous flow of shipments to every station, the "pacing" feature of the Webb TOWVEYOR overcomes the weak link in the "human chain." Trailers are designated clearly so that their removal from the "line" is always obvious.

CONVEYOR ENGINEERS AND MANUFACTURERS
JERVIS B. WEBB COMPANY
8945 ALPINE AVE.
DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
FACTORIES IN DETROIT . . . LOS ANGELES . . . HAMILTON, ONT.

Canton.—This road's ore unloading facilities in the Baltimore harbor area are being expanded and modernized. When completed, the facilities will have a maximum rated capacity of 3,000 tons an hour, about double present tonnage. Located on the north bank of the Patapsco river, the Canton's 60-ft. wide finger-type pier extends 1,253 feet south into the river. The Canton moves loaded ore cars to interchange tracks, where they are picked up by the Baltimore & Ohio, the Pennsylvania and the Western Maryland. When the new pier conveyor system goes into operation, the facility, it is said, will be the only one on the East coast which will have both a crane system to unload directly to cars and a conveyor system which passes through a weighing station to cars.

The conveyor system, designed and installed by the Robins Engineers division of Hewitt-Robins, Inc., of Stamford, Conn., features two 48-in. belt conveyors totaling over 1,600 feet in length. In addition to the conveyor system, and an additional crane to be built later, the Canton is building a new 500-car supporting yard for the ore pier. The project involves over five miles of new track.

Chicago & Eastern Illinois.—This road has applied to the I.C.C. for authority to construct a 20.2-mile line from a point near Evansville, Ind., to a point on the Ohio river near Yankeetown. The work would be financed with "current funds," and the line would serve a generating plant of the Southern Indiana Gas & Electric Co.

Detroit, Toledo & Ironton.—Conversion of three stalls of an existing enginehouse at Flat Rock, Mich., into a light running repair center for diesel locomotives will be carried out by the Austin Company at a cost of $125,000. An oil waste disposal system will be built at the Flat Rock yard at an estimated cost of $35,000. Plans were out for bids at the time of this report. It is expected that work will be started in the fourth quarter of 1952 and completed in 1953.

Louisville & Nashville.—Projects recently authorized, totaling $3.9 million, include: Repairs to 12 bridges at various locations, $582,261; construction of new industrial tracks at Godwin, Tenn., $27,377; rearrangement of yard trackage at West Knoxville, Tenn., $75,714; rearrangement of trackage and alteration of diesel fueling facilities at Howell, Ind., $32,311; electrification of pumping station at Loyall, Ky., $28,270; installation of C.T.C. on Knoxville division, $2,285,776; relining Tunnel 15 on Cincinnati division, $38,560; construction of new passenger station at Mobile, Ala., $751,930; and extension of passing tracks at Holt's Corner, Tenn., $30,872, and Bay St. Louis, Miss., $33,035.

Southern Pacific.—Projects recently authorized or in the earliest stages of construction include construction of a 3,150-ft. balloon track to permit abandonment of a snow-shedded turntable at Emigrant Gap, Cal.—$220,345; extension of two yard tracks a total of 8,079 track feet at Wendel, Cal.—$46,450; construction of a 2,896-ft. drill track for the Yuma Valley at Somerton, Ariz.—$44,830; extension of a siding at Red Rock, Ariz., to 125-car capacity—$60,045; construction of towers and installation of communications systems at Watsonville Junction, Cal.—$64,074;—and at Sparks, Nev.—$41,309; modernization of general office building elevators at El Paso, Tex.—$77,415; installation of city ticket office in Pacific Electric building, Los Angeles—$45,100; and necessary track changes incident to construction of North Sacramento Freeway, Sacramento—$358,535.

The signal respacing program, which includes addition of a third indication,
(Continued on page 131)

TWO NEW BOX-TYPE TANK CARS, especially designed for transportation of condensed whey, have been built by the Chicago & Eastern Illinois in its Danville, Ill., shops for the Consolidated Products Company—the first shipper-owned railroad cars ever built by the C&EI at Danville. The cars, 40½ ft. long, with a capacity of 6,000 gallons, were designed by the railroad's mechanical department. Each car contains two tanks, lined on the inside with glass and covered on the outside with two inches of spun glass insulation. The tanks are filled by pumps, a method made possible by a processs which changes the structure of buttermilk and whey so "it will flow like thick syrup" after being condensed to 55 per cent solids. Whey was formerly shipped in barrels which held 500 lb., and weighed 80.

Briefly . . .

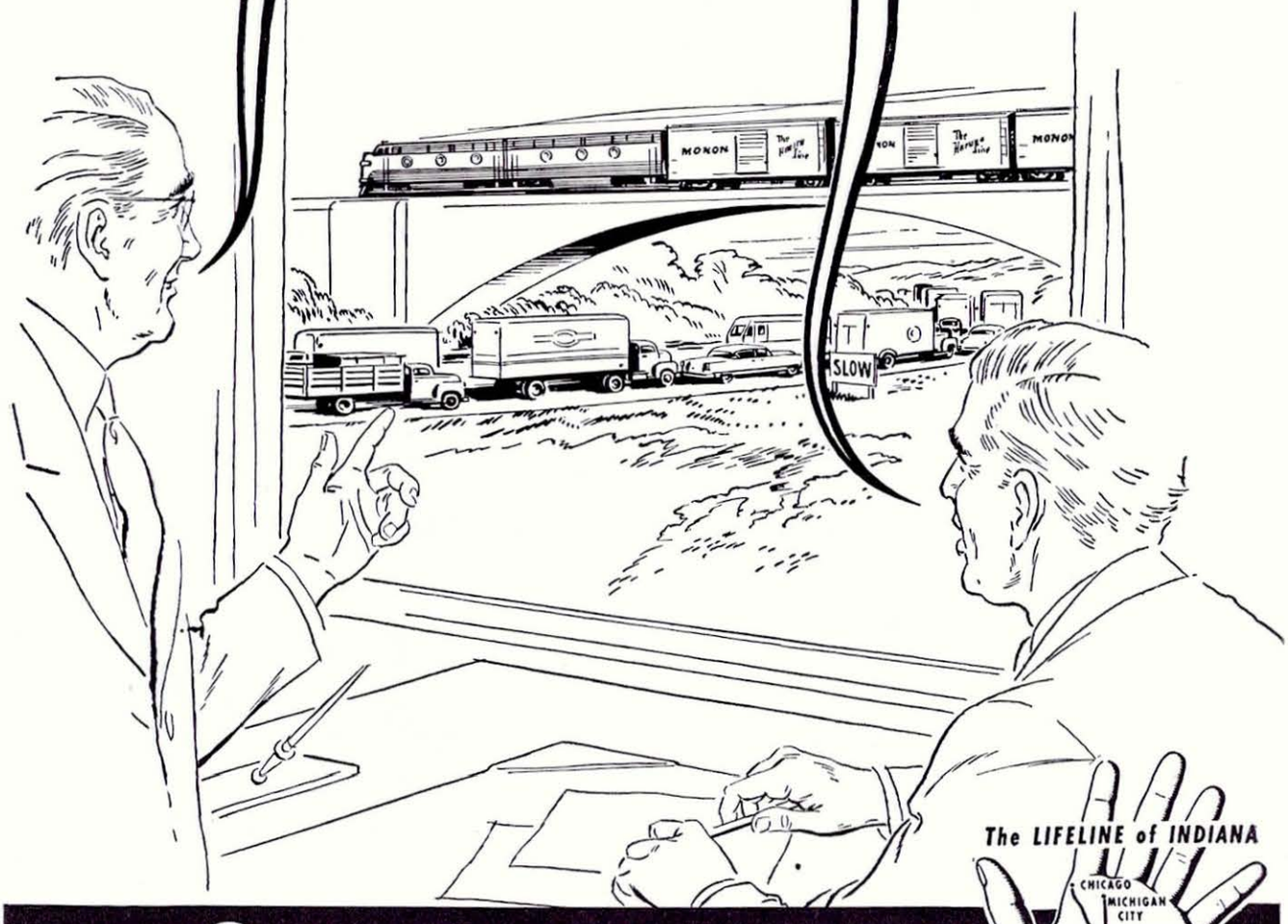
. . . The town of Herrick, Ill., is thankful that the Nickel Plate's merchandise freight NS-1 was hauled by a steam locomotive on September 12. A fire threatened the entire business district, and fire fighting equipment, rushed in from three neighboring communities, drained all the available water supply from the town's private wells. The train made an unscheduled stop and 15,000 gallons of water were drawn from the locomotive tender by suction hoses to bring the fire under complete control. That left the locomotive with about 3,000 gallons to continue its run from Buffalo, N.Y., to St. Louis.

. . . "A railroad man's president of a railroad man's railroad" is the manner in which Harry C. Murphy of the Burlington is characterized in the Chicago Tribune's "The Road to Success"—a weekly series of career sketches of leading men in commerce and industry. Mr. Murphy, said the Tribune on September 21, "had the good fortune to be born to parents of modest circumstances at a time when it was fashionable to start work early in life. He had the misfortune to arrive at the peak of his career at a time when federal income tax collectors grabbed a substantial part of earnings which ought to have been a reward for many earlier years of thrift, self-denial, long hours and hard work—and superior ability."

. . . The Baltimore & Ohio has been awarded a "Joshua," symbolizing first prize for the most distinguished use of match book advertising by a railroad during the past year, according to the Match Industry Information Bureau (*Railway Age*, September 1, page 116). The "Joshua," a bronze wall plaque in the shape of a match book, was named for Joshua Pusey, a Philadelphia patent attorney who invented match books. Lloyd W. Baker, B&O freight traffic manager, received the plaque on behalf of the railroad on September 26, sixtieth anniversary of the date of Pusey's patent. Honorable mention certificates in the railroad classification of awards were given to the Soo Line, the Central of Georgia, the St. Louis-San Francisco and the Chicago Great Western.

There's another Monon freight. LOOK AT THOSE CARS. The little old Hoosier Line is buzzing right along today. Dieselized, new freight cars, new rails and roadbed. It isn't the biggest—but it sure is "big time" all the way when it comes to service.

You're dead right, John. We've been specifying Monon for some time and the service is tops. Have you seen the new Monon slogan? It reads "LET'S SAVE OUR HIGHWAYS BY USING OUR RAILWAYS. SHIP BY RAIL—MONON." That's the spirit of the Monon today and we're for them.

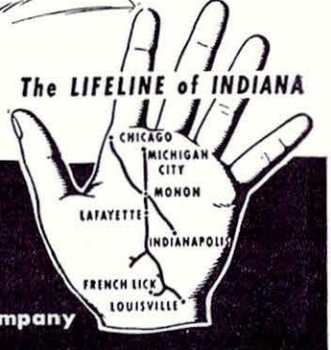


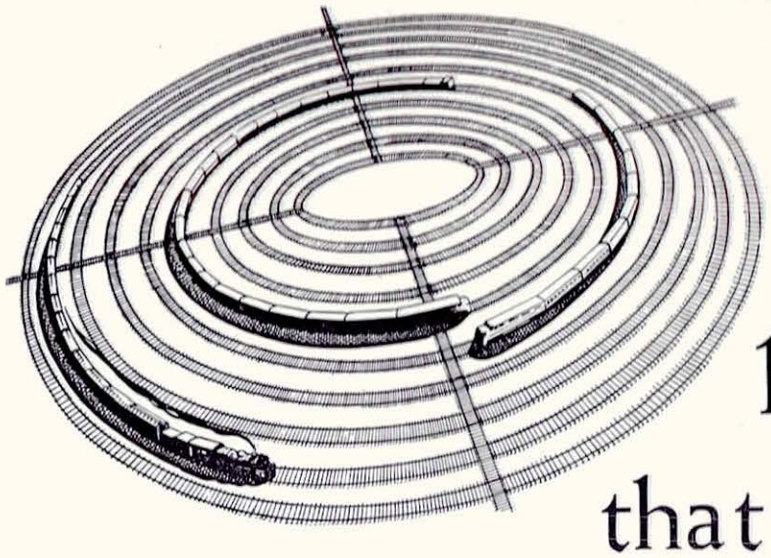
MONON
THE HOOSIER LINE

There are 22 on-line and off-line Monon freight representatives serving the nation. Why not contact yours—now?

Chicago, Indianapolis and Louisville Railway Company

The LIFELINE of INDIANA





The 10 circles that disappeared!

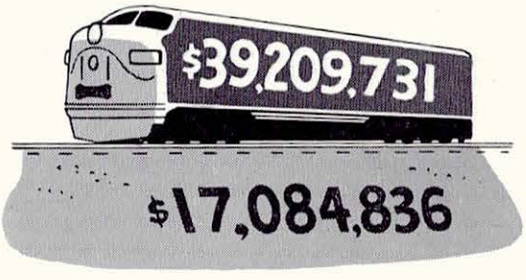
Literally speaking, the 10 circles never did exist. They're the sum total of the 3,556 degrees of curvature removed from NC&StL tracks since 1940: ninety-one curves entirely eliminated, 135 reduced to 2 degrees or less. What that represents is a lot more than just straighter, faster, safer roadbed!

Those missing circles are symbolic of the whole attitude of the NC&StL—the forward-looking attitude that has brought about, in less than a decade, improvement and modernization expenditures totaling more than the par value of outstanding NC&StL stock and bonds.

All in all, more than $56,294,000 has been spent since 1940 to provide better NC&StL service to the South. Just as it has for 107 years, NC&StL continues to work toward one unvarying mark, both equipment-wise and service-wise —*the best.*

$56,294,000 since 1940:

ROADWAY IMPROVEMENT—	EQUIPMENT IMPROVEMENT—
grade and curve reduction, bridges, 80.8 miles of new track, modern control and operating appliances, new machinery, etc . . .	152 new locomotives, 1,650 new box cars, 2,300 open-top cars, modernization of rolling stock, new passenger equipment, etc.
$17,084,836	**$39,209,731**



That represents a lot of progress —and NC&StL service shows it!

N.C.&St.L.

THE NASHVILLE, CHATTANOOGA & ST. LOUIS RY.

(Continued from page 128)
will be carried out between Davis, Cal., and Cortena, at a cost of $97,075. At the following locations, the work also includes conversion to searchlight signals: Mojave, Cal., to Vincent, $139,290; Picacho, Ariz., to Tucson, $53,130; and Tracy, Cal., to Los Banos, $205,675. Wigwag signals are being replaced with gates at 13 crossings in East Portland, Ore., at a cost of $144,115.

Tennessee Central.—The I.C.C. has given final clearance for this road to construct a 5.6-mile branch line to serve coal fields in Putnam county, Tenn. Work preliminary to the construction already is under way, and completion of the line is expected by March 1953. Estimated total cost of this project is $622,800, to be financed through a loan from the Reconstruction Finance Corporation.

FINANCIAL

Maine Central.—*Relief from Competitive Bidding Requirements.*—Division 4 of the I.C.C. has granted this road relief from competitive bidding requirements on a proposed $1,500,000 bond issue (*Railway Age*, September 8, page 57). Proceeds from sale of the new issue would be used to refund Portland & Ogdensburg 4½ per cent first mortgage bonds, due November 1, 1953. The latter bonds are outstanding in the amount of $1,676,000. The MC has not filed an application for authority to issue the new bonds.

Valdosta Southern.—*Operation.*—This road has applied to the I.C.C. for authority to purchase and operate a segment of the Georgia & Florida, extending from Madison, Fla., to Valdosta. The VS, a new company, would issue 10,000 shares of $100 par stock to cover cost of purchase and rehabilitation of the G&F segment. Purchase price would be $190,000, and an additional $251,300 would be required for rehabilitation. Construction of new interchange facilities at Valdosta would require still another $36,212, the road said. The National Container Corporation expects to seek I.C.C. authority to acquire control of the 27.4-mile road through ownership of stock. The container corporation is constructing a $25,000,000 pulp and paper plant on the line.

Wisconsin Central. — *Reorganization.*—The I.C.C. has modified slightly the plan of reorganization which it approved for this road early this year (*Railway Age*, March 31, page 61). Among the changes is one which raises the minimum number of directors of the reorganized company from five to nine. The debtor company, which asked for a minimum of 11 directors, argued that with as few as five the value of cumulative voting would be impaired. Another modification by the commission was to revise the description of new general mortgage bonds. The first income period on these bonds shall begin with the effective date of the reorganization plan, instead of the consummation date. Effective date for the reorganization plan was left unchanged at July 1, 1952.

New Securities

Application has been filed with the I.C.C. by:

CENTRAL OF NEW JERSEY.—To assume liability for $2,895,000 of equipment trust certificates, to finance in part 23 diesel-electric locomotive units costing an estimated $3,625,000:

	Description and Builder	Unit Cost
2	1,600-hp. road-switchers (American Locomotive-General Electric Companies)	$154,486
8	1,600-hp. road-switchers (Alco-G.E.)	160,410
3	1,600-hp. road-switchers (Alco-G.E.)	159,939
5	1,600-hp. road-switchers (Alco-G.E.)	150,516
1	1,600-hp. road-switchers (Alco-G.E.)	179,971
4	1,200-hp. switching locomotives (Baldwin-Lima-Hamilton Corporation)	137,685

The certificates, to be dated October 1, would mature in 15 annual installments of $193,000 each, beginning October 1, 1953. They would be sold by competitive bidding, with the interest rate to be set by such bids.

Division 4 of the I.C.C. has **authorized:**

BANGOR & AROOSTOOK.—To assume liability for $4,000,000 of equipment trust certificates, to finance in part 500 freight-train cars costing an estimated $4,487,500 (*Railway Age*, August 18,

FOR YOUR CONVENIENCE

A New York Office is Now at Your Service

to keep You Abreast of the Southeast... Forefront of the Nation's Progressive Expansion

A rapidly developing territory in the states of Alabama, Georgia and Tennessee including numerous industrial centers and the fast expanding port of Savannah, Ga., is served with approximately 2,000 miles of line by the Central of Georgia Railway and the Savannah & Atlanta Railway.

The Industrial Development Department of these two strong, dieselized railroads opens offices at 630 Fifth Avenue to bring confidential, timely information concerning the resources and advantages of a land of opportunity.

Mr. Walter R. Brown, General Industrial Agent, is as near as your telephone. He has had years in transportation and industrial expansion and is prepared to serve you efficiently. Mr. Brown has the facts you want concerning labor, climate, transportation and the expanding markets of the Southeast.

CENTRAL OF GEORGIA RAILWAY

SAVANNAH & ATLANTA

WALTER R. BROWN
General Industrial Agent
630 Fifth Avenue
New York, New York

HARRELL L. PERKINS
Vice President, Development
Rhodes-Haverty Building
Atlanta, Georgia

page 18). Division 4 approved sale of the certificates for 99.192 with interest at 3¼ per cent —the bid of Halsey, Stuart & Co.—which will make the average annual cost of the proceeds to the road approximately 3.38 per cent. The certificates, dated October 1, will mature in semiannual installments of $220,000 each between April 1, 1953, and October 1, 1957; and $90,000 each from April 1, 1958, through October 1 1967. They were reoffered to the public at prices yielding from 2.3 to 3.45 per cent, according to maturity.

Security Price Averages

	Sept. 30	Prev. Week	Last Year
Average price of 20 representative railway stocks	62.95	63.62	56.51
Average price of 20 representative railway bonds	92.66	92.44	93.45

Dividends Declared

ATCHISON, TOPEKA & SANTA FE.—common, $1.25, quarterly; extra, $1.25, both payable December 8 to holders of record October 31.

ATLANTIC COAST LINE.—5% non-cumulative preferred, $7.50, semiannual, payable November 10 to holders of record October 24.

CAROLINA, CLINCHFIELD & OHIO.—$1.25, quarterly, payable October 20 to holders of record October 10.

DOVER & ROCKAWAY.—$3, semiannual, payable October 1 to holders of record September 30.

LAKE SUPERIOR & ISHPEMING.—35¢, quarterly, payable October 15 to holders of record October 1.

NORFOLK & WESTERN.—4% adjustment preferred, 25¢, quarterly, payable November 10 to holders of record October 17.

PHILADELPHIA & TRENTON.—$2.50, quarterly, payable October 10 to holders of record October 1.

READING.—50¢, quarterly, payable November 13 to holders of record October 16.

SEABOARD AIR LINE.—5% non-cumulative preferred. Entire issue called for redemption October 20 at $100 per share plus dividend of $5.28 per share, payable October 20.

VERMONT & MASSACHUSETTS.—$3, semiannual, payable October 7 to holders of record September 26.

The Copywriter rode behind 100 cars and a 4,500 hp. diesel.

"No story there! Rode almost like a passenger train,"

said the Copywriter to the Traffic Manager

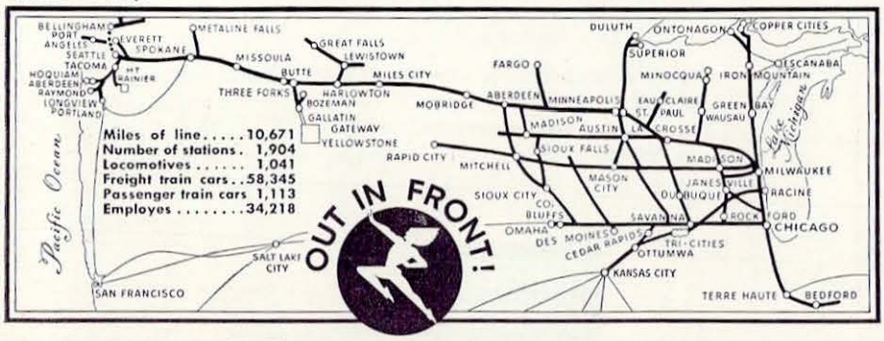
Assigned to riding freight trains, the Copywriter found his experience uneventful. "Can't see where I got an advertising slant out of that junket. It was just a smooth, fast ride."

Said the Freight Traffic Manager to the Copywriter, "... just a smooth, fast ride. There's your copy slant. You had an experience we wish all shippers could have, so they'd know how swiftly and smoothly The Milwaukee Road handles freight."

Your nearest Milwaukee Road agent will welcome the opportunity of talking to you about your shipping. You'll find him part of a smoothly running traffic organization.

SHIP—TRAVEL

Look at the map!



THE MILWAUKEE ROAD

Route of the HIAWATHAS

CHICAGO, MILWAUKEE, ST. PAUL AND PACIFIC RAILROAD

RAILWAY OFFICERS

EXECUTIVE

Andrew F. Lane, director of the Port Utilization division of the DEFENSE TRANSPORT ADMINISTRATION at Washington, D.C., has been appointed to the joint positions of assistant to vice-president in charge of traffic of the BOSTON & MAINE and traffic manager of the Mystic Terminal Company (B&M affiliate) at Boston, Mass. Mr. Lane will

Andrew F. Lane

Norfolk and Western receives two more Safety Awards!

The Norfolk and Western's policy of relentlessly seeking ever-better safety performance has won for the railroad and its employees two more distinctions highly coveted among the nation's railways —

The American Museum of Safety's *Certificate of Commendation* for THE BEST 1951 SAFETY RECORD AMONG CLASS A* RAILROADS IN THE SOUTHERN DISTRICT and —

The National Safety Council's *Award of Merit* in recognition of the N&W's 1951 employee safety record, which was SUBSTANTIALLY BETTER THAN THE AVERAGE RATE FOR ALL TRUNK LINE RAILROADS FOR THE YEARS 1948 THROUGH 1951.

The Norfolk and Western is a five-time winner of the Harriman Memorial Gold Medal — the highest honor in railroad safety, and a three-time winner of the National Safety Council award for the best employee record.

These records are the result of an intensive, continuous campaign in accident prevention throughout the years — the studying, teaching and practicing of safety in every phase of railroading, little and big. They are proof that safety on the Norfolk and Western pays continual dividends to employees, shippers and passengers alike.

The 23,000 members of the Norfolk and Western Family will strive always to make this a better, safer railroad.

* Railroads in Group A comprise the nation's larger railroads — those operating a minimum of 10 million locomotive miles per year.

Norfolk and Western Railway

1926

1938

1940

1947

1949

How to Boss a Blizzard

with the New

BROS Crawler-mounted Rotary

● Put the new crawler-mounted BROS Sno-Flyr Rotary to work, clearing auxiliary tracks, switching yards and terminal areas . . . and you'll feel like telling a blizzard where to get off . . . and how.

This new crawler-mounted rotary is so maneuverable you can turn it in its own tracks. With five forward and four reverse speeds, the unit lets you drive deep into drifts six to eight feet high. Flick the separate hydraulic cab controls, and you can aim the chutes in any direction, individually or together. You get greater control of snow streams than ever before, too . . . exclusive Bros segmented capping devices let you adjust height of snow-stream arc in a second . . . just like crooking your finger! Spot-cast snow up to 150 feet away. Cast high with favorable winds, or cast low into the wind. Cast up over banks or cuts. Direct streams away from corners, cuts, ledges, banks, buildings and other hard-to-get-at places, where accumulations could be dangerous . . . and expensive. You'll soon discover . . . no other rotary offers control like this.

May we tell you more about the new crawler-mounted BROS Sno-Flyr Rotary? Write us for the latest rotary catalog.

Photo shows two rear-mounted engines on special counter-balancing platform. Rear mounting perfectly balances plow assembly on front end.

WM. BROS BOILER & MFG. CO.

RAILROAD SALES DEPT. • MINNEAPOLIS 14, MINNESOTA

SNO-FLYR models available for 4-wheel-drive trucks, graders and crawler tractors. Also units for railroad and high altitude work.

continue for the present to act as consultant for the D.T.A. on port utilization matters, and will also remain temporarily as alternate chairman of the Interagency Committee on Port Utilization. In his new positions, Mr. Lane has been assigned to develop marine traffic for the B&M-Mystic Terminal Company over the new Hoosac and Mystic Piers leased by the railroad from the Commonwealth of Massachusetts and operated by the terminal company.

Mr. Lane was in B&M employ from 1924 to 1939, his last position being general agent, marine traffic. He subsequently became traffic director and later general manager of the former Boston Port Authority. He was co-author of the Lane-Peterson plan, which was the basis of the Massachusetts law creating the new Port of Boston Authority, of which he was assistant director from 1945 to 1947. From 1947 to 1951, Mr. Lane was president of the Clark Terminals Company of Boston, stevedores and warehousemen, and operators of the Boston Army Base for the United States Maritime Commission. Before entering the D.T.A. in 1951, he served with the Office of Price Stabilization as head of its Warehousing and Storage section.

T. Harold Cooper, vice-president of the CANADIAN NATIONAL at Montreal, retired on September 30 under the pension rules of the company. Mr. Cooper was educated in England and entered railroad service in the engineering department of the London, Midland & Scottish (Great Britain). He joined the Grand Trunk (now CNR) in 1912 as a temporary clerk in the accounting department, and became assistant to general auditor six years later. In 1923 he consolidated the accounts of lines

T. Harold Cooper

which now comprise the CNR system, an amalgamation involving more than 100 companies, in four major groups, each with its own separate accounting method. A uniform set of accounting procedures had to be devised for the new organization; although there was no pattern or precedent to work from, the principles Mr. Cooper laid down then have never been changed. Mr.

Albert C. McIntyre, freight traffic manager of the Lehigh Valley, has been elected vice-president — traffic, with headquarters as before at New York, succeeding John Duffy, who retired on October 1.

Cooper served the CNR as assistant to vice-president of finance, general auditor, auditor of general accounts, assistant comptroller and comptroller, successively, and in June 1945 was named vice-president.

William F. Hummel, traffic manager of the ELGIN, JOLIET & EASTERN, has been elected vice-president—traffic at Chicago, to succeed **James B. Davies,** who retired on September 30.

Alex Lyle, assistant to vice-president of the CANADIAN PACIFIC, has been appointed assistant vice-president, with headquarters as before at Montreal (*Railway Age*, September 29, page 55). Mr. Lyle, a native of Scotland, went to Canada in 1910 and joined the CPR at Moose Jaw, Sask., as stenographer in the office of general superintendent. Following a tour of duty at Revelstoke, B.C., he served successively as secretary to general superintendent; clerk, senior clerk and chief clerk to assistant

Alex Lyle

general manager of Western lines at Vancouver; chief clerk to vice-president, Western lines, at Winnipeg; and

SOME PEOPLE GROW THINGS

SOME PEOPLE MINE THINGS

SOME PEOPLE MAKE THINGS

ALL PEOPLE USE THINGS

...but it takes a lot of transportation to bring people and things together

-and that means railroads!

Most of the food you eat . . . the clothes you wear . . . the raw materials and the finished goods that keep our country prosperous and strong move long distances on the steel highways of America's railroads. And, so efficient and economical is this basic rail transportation, that railroads get *less*, on the average, for hauling a ton of freight a mile than any other form of general transportation!

Here's something else to remember about transportation: *The more freight that is shipped by rail, the less wear and tear there will be on public highways . . . the less taxes you will have to pay to keep these highways repaired . . . and the more room there will be on the highways for you!*

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ASSOCIATION OF AMERICAN RAILROADS

WASHINGTON 6, D. C.

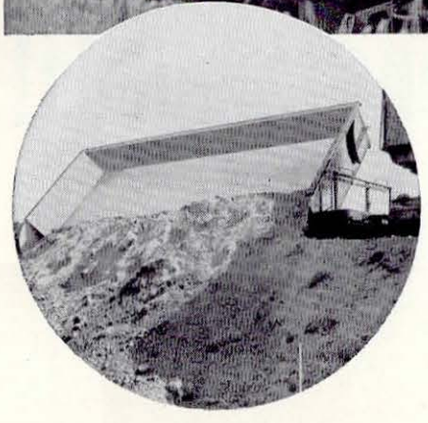
You'll enjoy THE RAILROAD HOUR every Monday evening on NBC.

chief clerk to vice-president at Montreal. Mr. Lyle was appointed assistant to vice-president in 1942. During World War I he enlisted in the Canadian Railway Battalion, subsequently serving in France as a warrant officer under the director general of transportation. Mr. Lyle is a past president of the Canadian Railway Club.

J. L. Montgomery has been elected vice-president of the UNION, at Pittsburgh, succeeding **R. C. McIntyre,** resigned. Mr. Montgomery has resigned as comptroller of the UNION and auditor of the ETNA & MONTROSE, the YOUNGSTOWN & NORTHERN, the CONNELLSVILLE & MONONGAHELA and the JOHNSTOWN & STONY CREEK.

Walter L. Price, vice-president in charge of accounting and freight claims of the BALTIMORE & OHIO, has been elected vice-president in charge of finance and accounting, with headquarters as before at Baltimore.

O. E. Hallberg, assistant to vice-president in charge of operations of the CHICAGO & NORTH WESTERN, at Chicago, has retired after some 50 years of service. A photograph and biography of Mr. Hallberg were published in *Railway Age* February 4, page 102.



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Such details as hardened, self-lubricating pins in door mechanisms, rolled steel weldments instead of castings (making repairs easier when repairs are necessary)—these are examples of details that put Differential in the lead more than 25 years ago — and keep it there!

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DIFFERENTIAL PRODUCTS INCLUDE:

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DIFFERENTIAL STEEL CAR COMPANY

FINDLAY, OHIO

SINCE 1915 — PIONEERS IN HAULAGE EQUIPMENT

John Duffy, vice-president—traffic of the LEHIGH VALLEY, at New York, retired on October 1 under the pension rules of the company, after almost 40 years of service. Mr. Duffy joined the LV on July 1, 1913, as advertising and publicity agent, after an earlier career in newspaper work in his native Memphis, Tenn., Chicago and New York. Publications which he served as reporter and writer included the Memphis Scimitar, Memphis News, Chicago Tribune, Leslie's Weekly and the New York World. During federal control of railroads in the World War I period, Mr. Duffy was assistant to the federal manager of the LV. He was appointed assistant to president on December 1, 1919, and elected vice-president—traffic on December 4, 1929. Mr. Duffy will continue with the LV in a consulting capacity.

FINANCIAL, LEGAL & ACCOUNTING

L. Courtney has been elected comptroller of the UNION, the ETNA & MONTROSE and the YOUNGSTOWN & NORTHERN, and auditor of the CONNELLSVILLE & MONONGAHELA and the JOHNSTOWN & STONY CREEK, succeeding **J. L. Montgomery,** who has resigned to become vice-president of the UNION. Mr. Courtney will continue to serve as comptroller and director of the BESSEMER & LAKE ERIE.

Gregory S. Prince has been named general solicitor of the ASSOCIATION OF AMERICAN RAILROADS at Washington, D.C., succeeding **James M. Souby,** whose retirement was reported in *Railway Age* September 1, page 26, and whose photograph appeared September 8, page 8. Mr. Prince was formerly assistant general counsel of the A.A.R.

J. W. Coon, secretary of the DELAWARE & HUDSON at New York for the past 28 years, retired on October 1, at his own request, after almost 62 years of railroad service, of which 37 years have been with the D&H. **H. M. Irwin,** vice-president and treasurer, was elected secretary, in addition to his present duties. Mr. Coon was born at Warren, Ill., on January 7, 1876, and entered railroad service on February 5, 1890, as a messenger for the Baltimore & Ohio at Chicago. He subsequently served as clerk to general superintendent, file clerk, assistant chief clerk at Newark, Ohio, accountant in general manager's office at Baltimore, chief clerk to general manager and vice-president, and assistant to third vice-president. In 1916 he joined the D&H as special agent at New York, and was appointed secretary in September 1924.

Harvey Little, paymaster of the Central region of the CANADIAN NATIONAL at Toronto, has been appointed treasurer of the CENTRAL VERMONT at St. Albans, Vt., succeeding **George Gillings,** whose appointment as assistant treasurer of the CNR system at Montreal was reported in *Railway Age*

August 11, page 17. Mr. Little entered the service of the CNR on September 8, 1919, as a clerk in the treasurer's office at Toronto and subsequently served as assistant cashier, chief clerk and regional paymaster.

C. Norman Kennedy has been appointed senior general attorney of the CHICAGO & EASTERN ILLINOIS. For the past year, Mr. Kennedy has been chief commissioner of the Division of Motor Carriers of the state of Illinois.

Gerald D. Finney and **Harry J. Breithaupt, Jr.,** have been appointed assistant general solicitors in the Law Department of the ASSOCIATION OF AMERICAN RAILROADS. Both have been on the department's staff—Mr. Finney since 1942 and Mr. Breithaupt since 1950.

OPERATING

The CANADIAN PACIFIC EXPRESS COMPANY has appointed **E. M. Brock** as superintendent of the cartage department, Western lines, at Winnipeg.

W. J. Morton has been appointed Quebec district superintendent of the sleeping, dining and parlor car department of the CANADIAN NATIONAL at Montreal. **William Henshall,** sleeping and dining car agent at Winnipeg, succeeds Mr. Morton as assistant superintendent at Montreal.

J. A. Shaver has been appointed trainmaster of the MISSOURI PACIFIC at San Antonio, Tex., succeeding **A. L. Adams. M. H. Cunningham,** trainmaster at DeQuincy, La., has been transferred to Mart, Tex., to succeed Mr. Shaver, and **J. M. Toler** has been transferred to DeQuincy to succeed Mr. Cunningham.

Stephen T. Keiley, division superintendent of the NEW YORK CENTRAL at Watertown, N.Y., has been appointed general manager of the BOSTON & ALBANY at Boston, succeeding **L. E. Pangburn,** on leave of absence due to illness. **Curtis D. Buford,** assistant superintendent at Erie, Pa., has been appointed superintendent of the St. Lawrence, Ottawa and Adirondack divisions at Watertown. **F. K. Mitchell, Jr.,** assistant superintendent of freight transportation at Indianapolis, has been appointed assistant superintendent at Van Wert, Ohio, succeeding **W. K. Dice,** who replaces Mr. Buford at Erie. **J. J. Danhof, Jr.,** trainmaster at Erie, replaces Mr. Mitchell at Indianapolis and **R. C. Marquis,** transportation inspector at Cleveland, succeeds Mr. Danhof at Erie. A photograph and biography of Mr. Keiley were published in *Railway Age* July 21, page 60.

TRAFFIC

J. A. C. Blair, district passenger representative of the CANADIAN PACIFIC at Pittsburgh, has been appointed general agent at Washington, D.C., succeeding **C. L. Burpee,** appointed district passenger agent at Victoria, B.C. **A. C. Niemen,** city passenger agent at Cincinnati, has been appointed district passenger agent at Pittsburgh.

C. B. Hamersly, commercial agent of the RICHMOND, FREDERICKSBURG & POTOMAC, has been promoted to general agent (solicitation), with headquarters as before at Atlanta, Ga., succeeding **E. W. Weeks,** who has retired at his own request after 30 years of service.

C. F. Forcell has been appointed general agent of the CHESAPEAKE & OHIO at New Orleans, succeeding **E. W. Lambert,** who retired September 30, under the company's retirement plan, after 25 years of service.

S. J. Cooley, assistant industrial commissioner of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, has been promoted to industrial commissioner at Chicago, succeeding **J. C. Ellington,** who has retired.

Albert J. Wyant, district traffic manager of the AKRON, CANTON & YOUNGSTOWN, at Pittsburgh, has been relieved of the "arduous, active duties and responsibilities" of his present position, but will continue in the service of

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Chicago & North Western Ry.
Gulf, Mobile & Ohio RR.
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New York Central System
Pennsylvania Railroad
Atchison Topeka & Santa Fe Ry.
Chicago, Burlington & Quincy RR.
Chicago, Rock Island and Pacific Ry.
Illinois Terminal Railroad
Inland Waterways Corp.
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the company as traffic consultant. Mr. Wyant has had a career spanning more than 50 years with various railroads, the last 10 of which have been with the AC&Y.

James J. Galligan, assistant freight traffic manager of the LEHIGH VALLEY at New York, has been appointed freight traffic manager, succeeding **A. C. McIntyre,** who has been elected vice-president — traffic. **William H. Leh,** assistant general freight agent, has been appointed general freight agent, and **Joseph E. Wheeler,** chief clerk, has been appointed assistant general freight agent.

Mr. Leh began his service with the LV in 1908, serving in various capacities in the freight traffic department at Coplay, Easton and Bethlehem, Pa., prior to his transfer to the road's tariff bureau at New York in 1919. Mr. Leh was appointed assistant general freight agent in 1943.

Thomas Gilpin, chief of the tariff bureau of the ERIE, has been appointed assistant general freight agent, with headquarters as before at New York, succeeding **J. H. Sisco,** promoted. **Frank J. Nelson** has been appointed chief of divisions bureau at New York, succeeding **F. K. Noonburg,** who replaces Mr. Gilpin as chief of tariff bureau.

T. C. Dummett, assistant general freight agent, has been appointed general freight agent of the UNION, the ETNA & MONTROSE, the YOUNGSTOWN & NORTHERN and the JOHNSTOWN & STONY CREEK, at Pittsburgh, succeeding **J. L. Montgomery. W. D. Shaw** succeeds Mr. Dummett as assistant general freight agent.

A. F. McGuffin, commercial agent of the CLINCHFIELD, has been appointed district freight agent, with headquarters as before at Jacksonville, Fla., succeeding **J. H. Hendley,** who has been appointed perishable freight agent at Jacksonville.

C. J. Nelson, general fuel traffic manager of the CHICAGO, BURLINGTON & QUINCY, has retired at his own request after 46 years of service. With his retirement, rate and divisions work relating to coal, coke and petroleum traffic has been transferred to the rates and divisions department under jurisdiction of **G. H. Rehm,** freight traffic manager—rates and divisions. **C. H. Bruha** has been appointed fuel traffic agent in charge of coal, coke and petroleum rates, with headquarters at Chicago.

P. D. Robertson, assistant to traffic manager of the FORT DODGE, DES MOINES & SOUTHERN, at Boone, Iowa, has been appointed assistant traffic manager (rates and divisions), with headquarters as before.

C. N. Holt, city passenger agent of the CANADIAN PACIFIC at Fort William,

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delicious food...
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You'll be only a step
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and garage, and convenient
to anywhere you'll want
to go in Cleveland.

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Other Affiliated Sonnabend Hotels
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Ritz Tower
CHICAGO
Edgewater Beach Hotel
BOSTON
The Somerset
The Puritan
The Shelton
RESORTS
Whitehall, Palm Beach, Fla.
Samoset, Rockland, Me.

Ont., has been appointed general agent at Winnipeg, succeeding **Walter Fridfinnson,** who has been assigned to special duties in the rate department, office of passenger traffic manager, at Winnipeg.

S. J. Karthaus and **J. E. Renquist,** general agents of the FORT DODGE, DES MOINES & SOUTHERN at Des Moines, Iowa, and Fort Dodge, respectively, have been promoted to assistant general freight agents, with headquarters as before.

Harry H. Jordan, general agent of the KANSAS CITY SOUTHERN at Minneapolis, retired on October 1 after 30 years with the company. He has been succeeded by **Fred S. Miller.**

ENGINEERING AND SIGNALING

R. A. Ullery, chief draftsman of the BESSEMER & LAKE ERIE, has been appointed assistant to chief engineer at Greenville, Pa. The position of principal assistant engineer, held by **Lawrence Spalding,** deceased, has been discontinued.

Dwight E. Perrine, office engineer for the CHICAGO & WESTERN INDIANA and the BELT RAILWAY OF CHICAGO, has been promoted to assistant chief engineer. **J. E. Peterson** succeeds Mr. Perrine as office engineer.

Francis B. Peter has been appointed assistant engineer of the SOUTHERN PACIFIC, at San Francisco.

E. L. Hoffman has been appointed division engineer of the CHICAGO & NORTH WESTERN's Nebraska division, at Norfolk, Neb. He succeeds **A. A. Colvin,** who has retired after 40 years of service.

D. C. Hastings has been appointed division engineer on the RICHMOND, FREDERICKSBURG & POTOMAC, with headquarters at Richmond, Va., succeeding **J. A. Blalock,** whose death was reported in *Railway Age* September 15, page 92.

R. K. DeLong, division engineer of the Moncton division of the CANADIAN NATIONAL, has been appointed engineer of construction of the Atlantic region at Moncton, N.B., succeeding **R. J. Dustan,** terminal engineer, who has retired. **R. F. MacKenzie,** assistant division engineer at Campbellton, N.B., has been appointed division engineer of the New Glasgow division at New Glasgow, N.S., succeeding **B. F. Keays,** who has been transferred to Moncton, to replace Mr. DeLong.

J. J. Richardson, supervisory engineer of construction of the new extension of the CANADIAN PACIFIC at Windsor station, Montreal, has been appointed district engineer at St. John, N.B., to succeed **J. A. Mackenzie,** who has retired after more than 30 years of service.

(Continued on page 141)

Photos Courtesy The Massey-Harris Company.

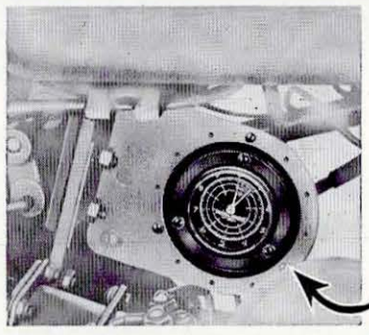
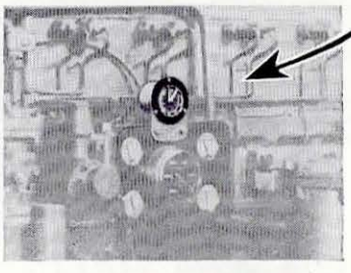


Photo Below Courtesy Cummins Engine Company, Inc.



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The Lord Meter Mount assures the accurate performance designed into Hobbs Engine-Hour Meters when they are subjected to excessive vibration on farm tractors and stationary diesel engines. These meters are protected from the damaging effects of vibration and shock by the unique method of combining shear and rolling action of the rubber to absorb destructive forces. The outer ring is mounted to the panel and the inner ring holds the meter thus giving protection in multi-planes. The rubber between these rings does the work. We will be pleased to have the opportunity to help you in the application of Lord Meter Mountings.

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DAYTON 2, OHIO 238 Lafayette Street
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NEW YORK 16, NEW YORK 280 Madison Avenue
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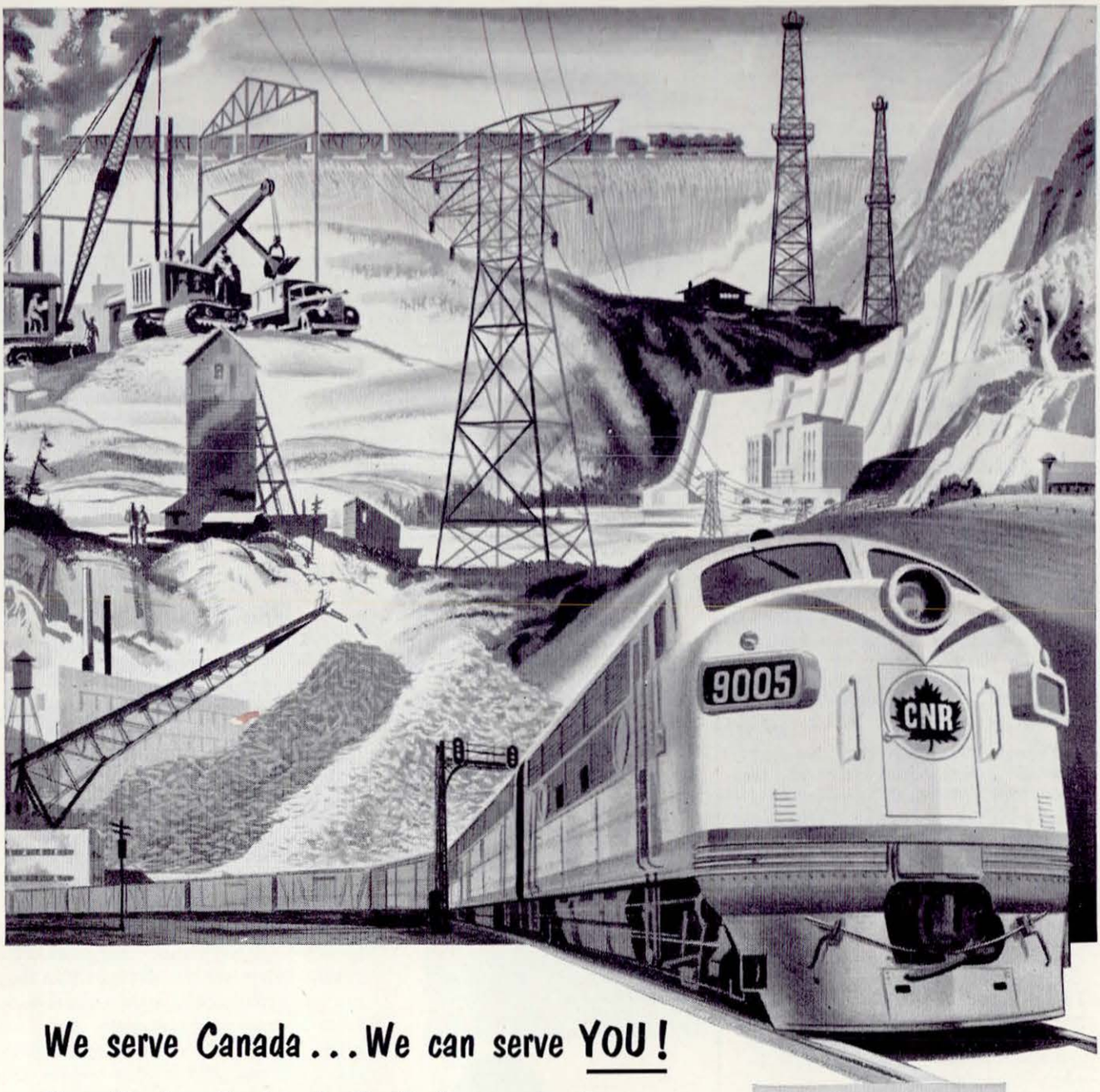

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RAILWAYS STEAMSHIPS AIRLINES BUSES HOTELS TELEGRAPHS EXPRESS

(Continued from page 139)

Charles J. Nelson, communications equipment supervisor of the ILLINOIS CENTRAL, has been appointed radio communications engineer of the CHICAGO, ROCK ISLAND & PACIFIC at Chicago.

J. C. Williams, assistant engineer of buildings of the SEABOARD AIR LINE, has been named engineer of buildings, with headquarters as before at Norfolk, Va., succeeding **W. L. Darden,** who has retired after more than 47 years of service. **T. S. Williams,** chief draftsman, has been appointed assistant engineer of buildings. Mr. Darden was born in Green county, N.C., in 1882 and was graduated from North Carolina State College (C.E., 1905). Upon graduation he entered the service of the Seaboard as a draftsman at Portsmouth and was appointed chief draftsman in 1910, engineer of buildings in 1914, senior assistant engineer in 1926 and assistant chief engineer in 1941. In 1944 Mr. Darden again became engineer of buildings when the engineering and maintenance of way departments were consolidated.

T. S. Williams was graduated from North Carolina State College (C.E.) and began his career with the Seaboard in 1923. He became chief draftsman in 1943.

Leland P. Kimball, engineer of buildings of the BALTIMORE & OHIO at Baltimore, has retired from active duty after 48 years of railroad service. Mr. Kimball was born at Danvers, Mass., on August 8, 1887, and began his career with the Illinois Central at Chicago in 1904. He held various positions in the engineering department, advancing to chief draftsman for the engineer of buildings. In August 1918 Mr. Kimball joined the B&O as engineer of buildings of the Western lines at Cincinnati. The following year he was transferred to the Eastern lines at Baltimore, and on March 1, 1920, his jurisdiction was extended over the entire system.

C. R. Bergman, division engineer of the PENNSYLVANIA at Cleveland, has been appointed assistant chief engineer maintenance of way of the Eastern region at Philadelphia. Mr. Bergman was born at Warren, Pa., and was graduated from Pennsylvania State College in 1928. While still a student in 1927, he entered the service of the PRR as an assistant on the engineer corps at Philadelphia and after completing his education served in a similar capacity at

C. R. Bergman

New York. Mr. Bergman was appointed assistant supervisor of track in November 1928, supervisor of track in 1933, assistant division engineer of the Maryland division in 1943, division engineer of the Renovo division at Erie, Pa., in May 1944, division engineer of the Chicago Terminal division at Chicago in December 1944, engineer maintenance of way of the Western Pennsylvania division at Pittsburgh in June 1947, and division engineer of the Lake division at Cleveland on November 1, 1949.

OBITUARY

Thomas L. Ennis, 61, vice-president and general counsel of the DELAWARE & HUDSON at New York, died on September 30 at Roosevelt Hospital in that city. Mr. Ennis was born at Rotterdam Junction, N.Y., on May 8, 1891, and attended Union College (B.S., 1914) and Columbia Law School (LL.B., 1917). From 1919 to 1927 Mr. Ennis was associated with Hughes, Schurman & Dwight. On April 1, 1927, he joined the D&H as assistant to general counsel, becoming general counsel and member of the board of managers on January 1, 1935. He was named vice-president and general counsel on January 1, 1942.

L. C. Haines, treasurer of the FLORIDA EAST COAST at New York, died on September 29 at his home in Brooklyn, N.Y.

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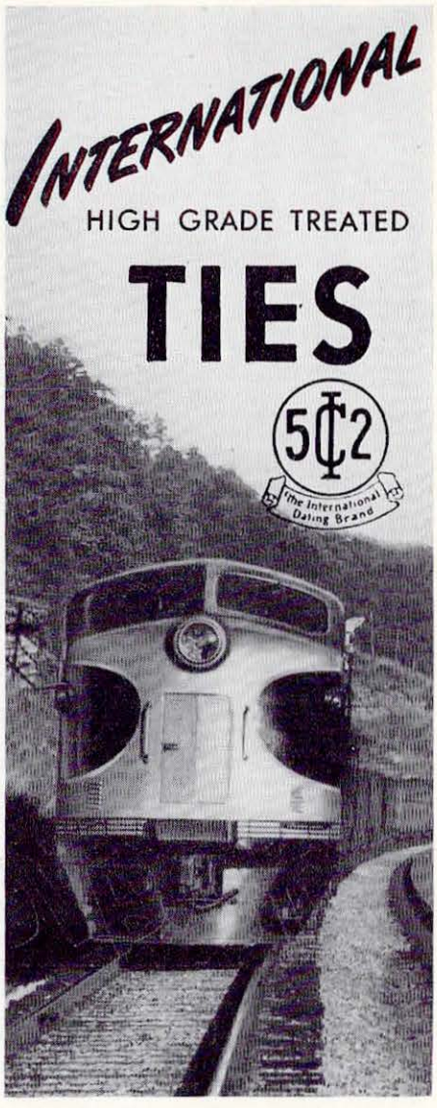

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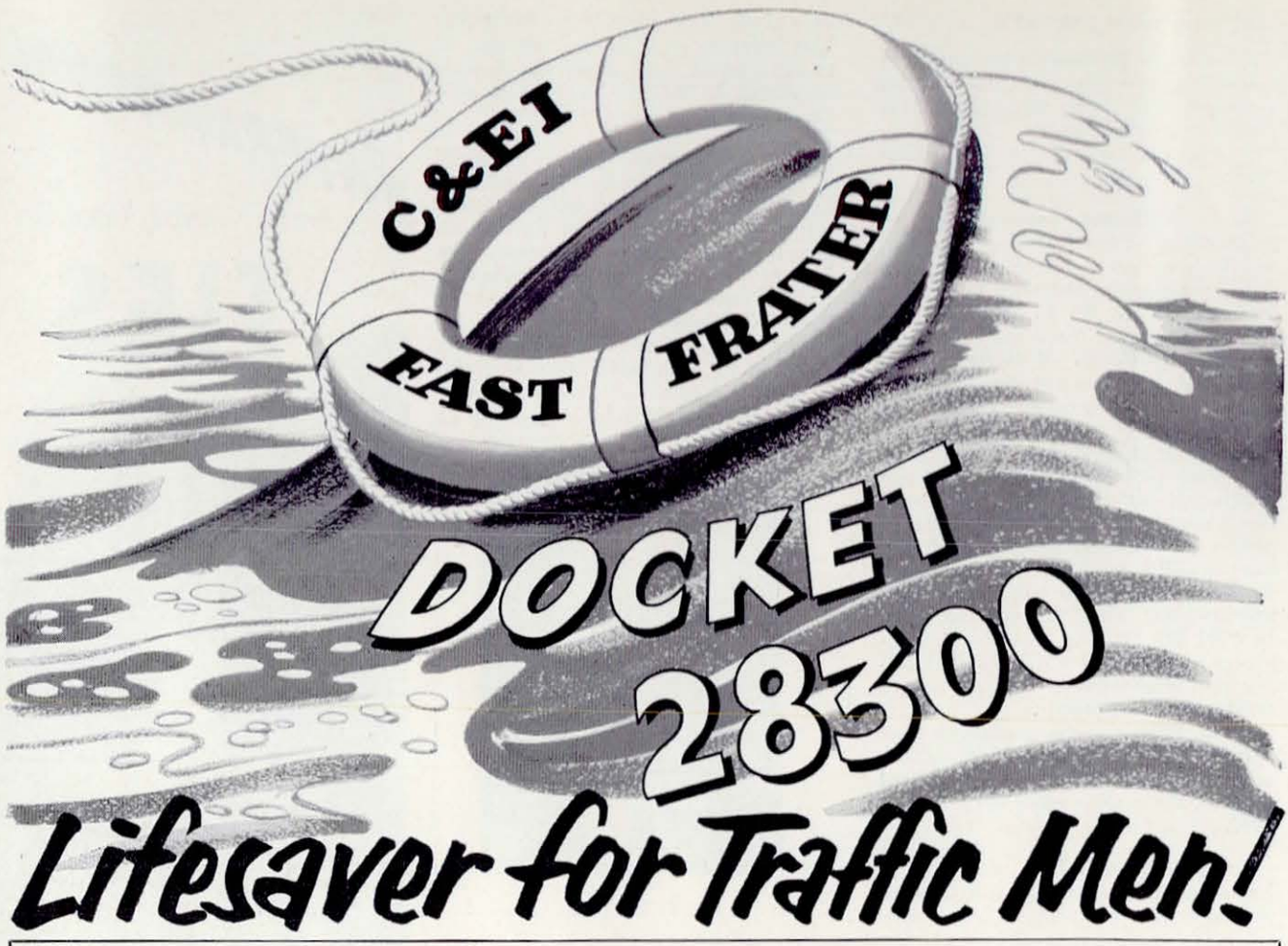

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- Gives all uniform-classification class rates (Standard; Westbound-Differential and SWL Short-Line) between 3000 headline points and all sideline points involved in the 28300 adjustment.
- Provides comparison chart of the 28300 first class rate scale with scales of other major rate territories.
- In addition, contains: (1) map showing location of ICC 28300 line of demarcation and outline of major rate territories; (2) Ex Parte 175-B freight charge increase (Tables 12% and 15%); (3) Ex Parte 175-B freight rate increase (as information only); (4) Federal transportation tax table (3%); (5) brief review of ICC Docket 28300 and 28310 action; (6) interstate and intrastate effective dates (if any) in all states for ICC 28300 increases and reductions, also Ex Parte 175 interim and final increases.

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C&EI

CHICAGO & EASTERN ILLINOIS RAILROAD

STATEMENT of the ownership, management, and circulation required by the Act of Congress of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) of *Railway Age*, published weekly at Orange, Connecticut, for October 6th, 1952.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Simmons-Boardman Publishing Corporation, 30 Church St., New York 7, N. Y. Editor, James G. Lyne, 30 Church St., New York 7, N. Y. Managing Editor, C. B. Tavenner, 30 Church St., New York 7, N. Y. Business Manager, J. S. Crane, 30 Church St., New York 7, N. Y.

2. That the owners are: Simmons-Boardman Publishing Corp., 30 Church St., New York 7, N. Y.; stockholders of 1 per cent, William E. Russell, as Executor of the L/W and T of Ida R. Simmons, 41 East 42nd St., New York 17, N. Y.; S. O. Dunn, 79 W. Monroe St., Chicago 3, Ill.; Mrs. C. E. Dunn, 221 E. Chestnut St., Chicago 11, Ill.; Mrs. Mae E. Howson, 6922 Paxton Ave., Chicago, Ill.; Ella L. Mills or Catherin S. Mills, Westfield, N. J.; Mrs. E. G. Wright, 398 No. Walnut St., East Orange, N. J.; Mrs. Ruth W. Johnson, 1615 Ravenna Blvd., Seattle, Wash.; J. V. McManus, 39 Broadway, New York, N. Y.; J. Streicher & Co., 2 Rector St., New York, N. Y. Partners of J. Streicher & Co. are: Joseph Streicher, Jack L. Streicher, Ethel Streicher, Judson Streicher, all of 2 Rector St., New York, N. Y.; J. W. Gould & Co., 120 Broadway, New York, N. Y.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

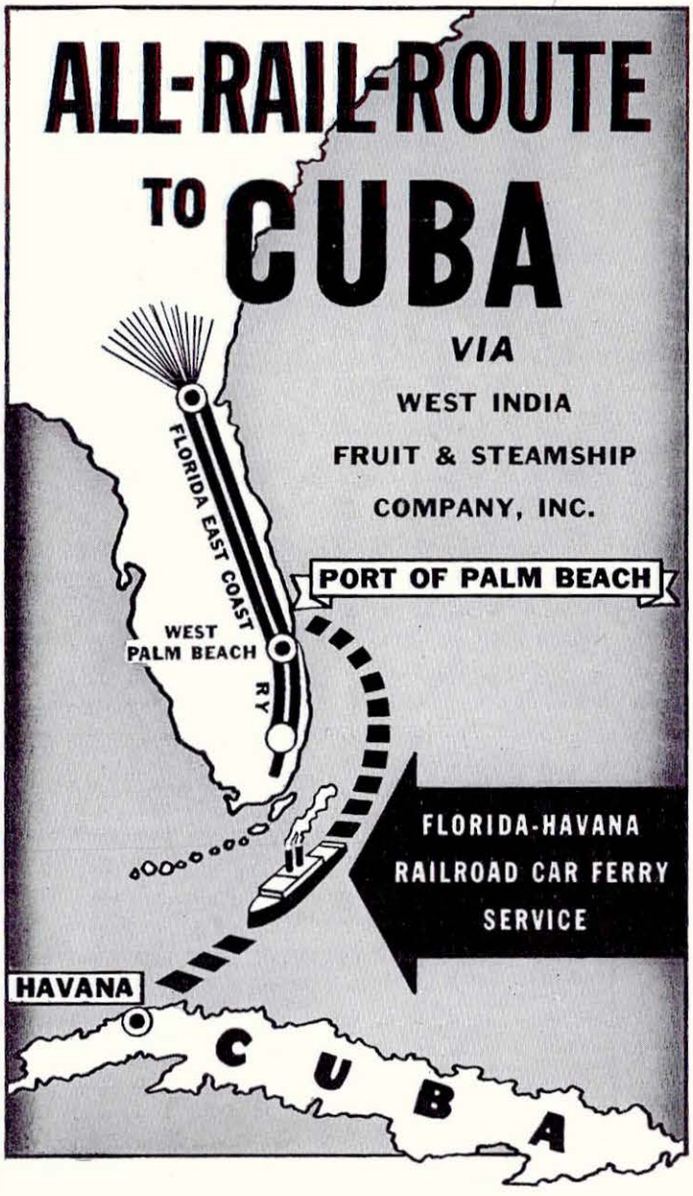
5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.) 15,390.

JAMES G. LYNE

Sworn to and subscribed before me this 18th day of September, 1952.

EDMUND J. PUYDAK

[SEAL] (My commission expires March 30, 1953)



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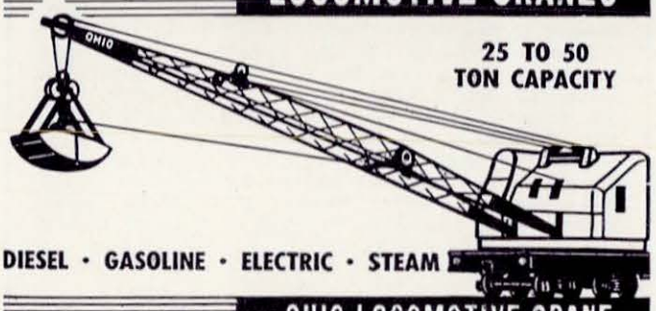

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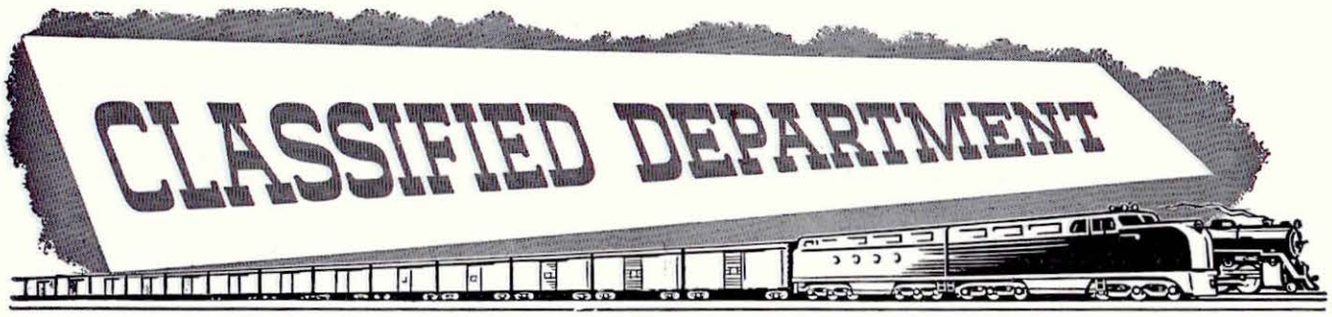

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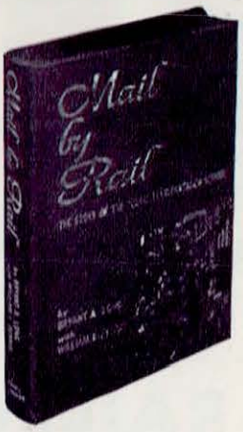

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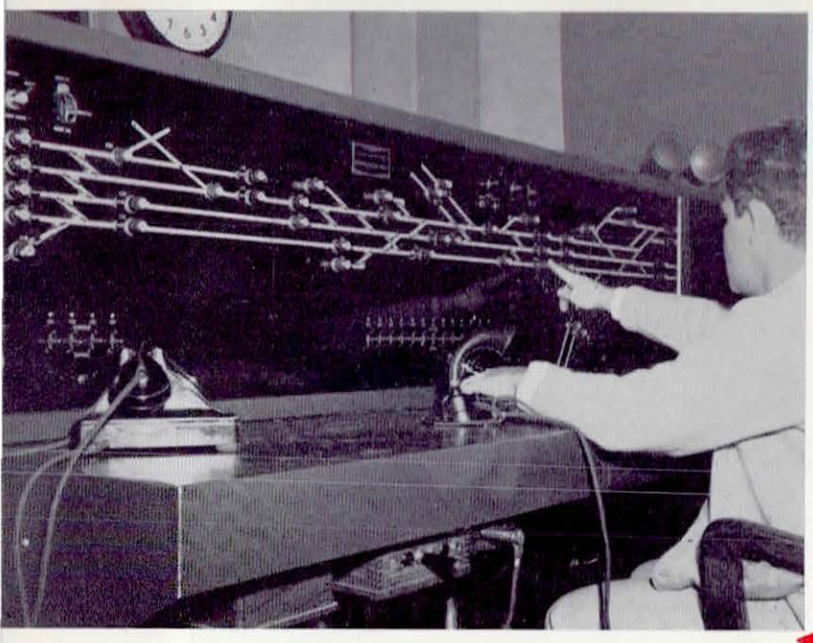

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